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DIAGNOSTIC ENZYMOLOGY

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WITHIN THE PAST few years a new diagnostic aid to the clinician has been in the process of development, viz., the discovery that the concentration of a number of enzymes in the blood of a patient may be correlated with the degree of tissue necrosis. Central to the development of this concept has been the exciting work of Wroblewski, LaDue and Karman on serum glutamic acid-oxalacetic transaminase (S-GOT). Under the spur of the discovery that S-GOT is elevated in patients with myocardial infarction and liver disease, a number of other enzymes, such as serum glutamic acid-pyruvate transaminase and lactic acid dehydrogenase, have been investigated with respect to their correlation with other disease processes.

In view of the increasing importance of enzymology to the clinician it is proposed to discuss first the general theory of diagnostic enzymology and its pitfalls, and, second, 12 enzymes of some proven interest in diagnosing various disease states from the viewpoint of which disease involves what enzyme. A procedure will be recommended for the determination of each enzyme, and the nature of the reaction involved will be described.

By means of such a general review it is hoped that the reader will be encouraged to follow the development of this new diagnostic tool with a more critical interest and greater understanding.

General Concept of Diagnostic Enzymology

The essential logical step linking blood levels of enzymes and disease states is that the tissue involved must release an abnormal amount of the particular enzyme under study into the plasma. Most investigators have considered that tissue necrosis is essential to this process. However, an alteration in the permeability of the cell membrane to the particular enzyme may also suffice to cause an alteration in the blood level. For example, we have found that ligating the major duct of the pancreas produces an immediate increase in the concentration of serum amylase, and yet histologic studies indicate that tissue necrosis occurs some time after this period.[1] In this case it is possible that blocking the egress of pancreatic juice creates, by simple hydrodynamics, an alteration in the blood vessel permeability to amylase, permitting this enzyme to escape directly into the blood.

The serum level of transaminase activity, on the other hand, is more closely related to severity and extent of infarctions in certain organs.[2, 3] The tissue concentration of transaminase has been shown to be reduced to 2 to 10 per cent of the initial concentration by necrosis.[4] In view of this enzyme depletion of the tissue, the concentration of the plasma enzyme will change with time after infarctions, since the necrotic tissue cannot continuously release the enzyme at a constant rate. Under these conditions the serum elevation may be missed entirely if the blood is withdrawn a few days after the onset of the disease. Even if an elevation in serum level is measured, there will be a peak which could easily be overlooked unless daily determinations are performed.[5] The correlation between size of lesion and maximum blood enzyme concentration is more quantitative than when compared to the enzyme activity at any other time. For this reason alone the quantitation of results is extraordinarily difficult.

Some of the experimental errors in the determination of enzyme activity have been described elsewhere. One source of error in the quantitation of results can bear repeating: The reaction rate of a normal amount of blood enzyme may be zero order, while the rate of reaction of a profoundly increased enzyme concentration may be first order. These results may not be quantitatively compared without complicated mathematical corrections being introduced into the calculations.

Another factor which may alter the simple relationship between disease states and serum enzyme levels is the renal capacity of the patient. Recent studies on serum ribonuclease, for example, indicate that profound elevations in this enzyme occur with decreasing glomerular filtration rates.[6] Similar findings have been made in this laboratory by us for amylase, although the degree of enzyme alteration is considerably less for this enzyme than for ribonuclease.

The kidney is not the only route of enzyme removal from the blood. Recent work on transaminase indicates that none of this enzyme appears in the urine but disappears from the blood into the interstitial fluid.[7] Therefore, to some extent the patient's body mass, obesity, and degree of hydration must enter into the equation quantitatively, relating the size of the lesion to the blood enzyme concentration.

Inherent in the theory linking tissue necrosis with alterations in blood enzyme levels is the assumption that the release of enzyme is not accompanied by the parallel release of an inhibitor for this enzyme. Such an occurrence may be postulated to explain the fact that, although the intestine, stomach and kidney are rich sources of lactic acid dehydrogenase,[8] carcinoma of these organs is not associated with an elevation of this enzyme in serum.[9] Similarly, Roth[10] has shown that the assay of the ribonuclease content of various tissues is profoundly increased by the addition of lead to the tissue extract to precipitate a contaminating enzyme inhibitor. Consequently a number of enzymes useful in pinpointing the particular tissue involved in a disease state may be currently overlooked because of the parallel release of a specific enzyme inhibitor from the diseased tissue.

Another possible explanation for the fact that tissues known to be rich in a given enzyme do not release appreciable amounts of this activity into the blood following infarction, necrosis, trauma, etc. is that the particular enzyme may not be soluble in serum or saline. For example, the major source for the preparation of ribonuclease is the pancreas,[11] yet no elevation in the activity of this enzyme in sera is found with either hemorrhagic or edematous pancreatitis.[6] We have found, however, that although acid extracts of pancreatic tissue contain large amounts of ribonuclease, saline extracts of this organ are quite low in this enzyme and high in desoxyribonuclease activity. It is not surprising that pancreatitis has been found to be associated with plasma desoxyribonuclease elevations[12] but not with an increase in serum ribonuclease activity. One explanation for this type of finding is that ribonuclease is strongly bound to some saline-insoluble interfact within the cells which precludes the possibility of necrosis of this tissue releasing appreciable quantities of the enzyme into the blood stream. There is also a large amount of ribonuclease inhibitor found in pancreas,[10] which further guarantees that pancreatic trauma is not associated with hyperribonucleasmia, despite the large amount of the enzyme found in this organ.

Throughout this discussion I have been solely concerned with the enzymes found in blood. Two other body fluids contain appreciable amounts of various enzyme activities and therefore should be mentioned, viz., urine and cerebrospinal fluid. The determination of urinary enzymes is quite attractive to the enzyme chemist. The relative protein purity of such a liquid decreases the possibility of interfering materials altering the results. Unfortunately, because of the great variation in urinary output with patients of differing hydration states, the concentration of enzyme released over a 24-hour period is required. This requires a certain amount of extra care on the part of both the patient and nursing staff. Such extra effort might be justified if the results of this procedure were always satisfactory, but alterations in glomerular filtration rate and in the integrity of the nephron system are of profound influence upon the results, and these factors are not always constant over the 24-hour period required. Furthermore, the mode of excretion of most blood enzymes is not well known. Educated guesses about amylase[13] and ribonuclease[14] have been made, but these are only 2 out of the many blood enzymes of clinical importance. It should be noted that both of these enzymes have been found to be only partially filterable. Under these conditions the concentration of blood enzyme may not be quantitatively determined from the urinary output. Under the best conditions, where no renal or fluid balance alterations occur in the patient and no urinary enzyme inactivation has occurred during the 24-hour period, an elevation in the urinary enzyme output is often an indication of a given disease process. In such cases, however, the urine is reflecting in some manner the concentration of enzyme activity in the plasma. In general, then, a more direct measure of the disease process is found by determining directly the amount of enzyme activity in the blood, despite the increased possibiity of protein interference.

There are 2 important factors to consider in the determination of cerebrospinal fluid enzyme activity: (1) erythrocyte or leukocyte contamination of the fluid, and (2) anomalous results stemming from the use of pneumoencephalograph samples. Since red blood cells release transaminase[15] and leukocytes elaborate ribonuclease,[6] in order to determine the amount of these enzymes released from the brain tissue into the spinal fluid, these cellular elements must be excluded. Furthermore, it has been found that pneumoencephalography causes large alterations in the concentration of these enzymes in cerebrospinal fluid[15,16] depending upon when the fluid was taken, how much air had been injected, how much time was allowed to elapse between injections, etc. If these factors, as well as the possibility of alterations in the blood-brain barrier causing leakage of enzyme activity from the blood into the spinal fluid are taken into account, the enzyme level in the spinal fluid may prove to be of great value in the determination of brain tissue disease.

In spite of all the defects and "pitfalls" described above, the clinical value of diagnostic enzymology remains quite real. The future holds great hope that new and more specific enzymes may be found to act as clinical signposts in providing further insight into the type, severity and locality of necrotic or degenerating diseases. In the first flush of enthusiasm over any good thing, however, it is well to pause soberly for a moment and dwell in some detail upon the difficulties and theoretical objections to this new clinical tool of "diagnostic enzymology" which have arisen in the course of its rapid development.

AMYLASE

Amylase, or diastase as it is occasionally called, is an enzyme which hydrolyses the 1-4 and 1-6 glycosidic bonds of starch and glycogen. The 3 major reaction products are glucose, maltose and short-chain polysaccharides called dextrins.[17] There are 2 classes of amylase, 1 which produces 10 times more maltose than dextrin and 1 which produces some 60 times more maltose than dextrin.[18] The first enzyme is termed α amylase and is widely distributed among animal tissues; the second enzyme is called β amylase and is found is plant tissues. Alpha amylase is considered to be a "dextrinizing" enzyme in contrast to β amylase, which is primarily a "saccharifying" enzyme. Dextrinization is accompanied by a large decrease in the ability of the substrate to form a blue complex with iodine and a smaller increase in the reducing end-groups. Saccharification releases large amounts of reducing end-groups while providing relatively little change in the iodine-complexing ability of the substrate. Since blood amylase is a dextrinizing enzyme, this activity is best assayed by the starch-iodine method originially described by Wohlgemuth.[19] A simple modification of this procedure which uses only 0.1 ml. of sera or plasma has been described by Smith and Roe.[20] The normal amount of human blood amylase, calculated in units per 100 ml. of fluid, ranges from 40 to 130 units, with a mean of 75. Elevations in excess of 800 units are often found in patients suffering from edematous pancreatitis. We have recently reviewed some 1,840 serum amylase determinations on 977 patients.[21] The amylase was abnormally high in 494 patients, and in 379 or 76 per cent of these the elevation was related to pancreatic disease. The other 24 per cent involved patients who had parotitis, cholecystitis, peptic ulcer, intestinal obstruction, peritonitis and cholangiography. Similar observations on a smaller number of cases have been made by others.[22] Some 78 of our patients were found to have either no serum amylase activity or very little. A large fraction of these patients had cirrhosis of the liver.

LIPASE

The term lipase refers to the pancreatic enzyme capable of hydrolyzing long-chain triglycerides into their constituent fatty acids and glycerol. This enzyme, which occurs in minute amounts in the circulation of normal humans, should not be confused with the plasma which can hydrolyse short-chain glycerides, but are only slightly active on the longer chain triglycerides. Therefore, these latter compounds are the distinguishing substrate for pancreatic lipase.[23] Since this substrate is insoluble in water, a large difficulty in assay method results. For this reason an emulsion of triolein (olive oil) is often used as a substrate, and the amount of alkali consumed by the released fatty acids[24] or the amount of glycerol[25] produced during reaction is used as a measure of activity. Recently Bunch and Emerson[26] have developed a new electrometric method which requires only 4 hours' incubation instead of the usual 24. This method would seem to be a great improvement over the earlier technics.

Johnson and Bockus[27] showed in 1940 that pancreatitis increases the serum level of lipase level activity. The normal range of lipase activity using the Bunch and Emerson method was between 0.06 and 0.87 units, while elevations up to 3.0 units were not uncommon with pancreatic disease. The lipase elevation is more prolonged than amylase and is more specific for pancreatitis.[28]

Recently, Nachlas and Blackburn[29] have used a soluble substrate for lipase assay. These workers have utilized the fact that bile salts inhibit the blood esterase while enhancing pancreatic lipase activity to overcome the criticisms of the soluble substrate described above. This method requires 2 hours' incubation of 0.2 ml. serum with β naphthyl caprylate. The great ease and simplicity of this method make it of considerable value in the determination of blood lipase levels in pancreatic disease.

DESOXYRIBONUCLEASE (DNAase)

The determination of plasma DNAase, an enzyme which depolymerizes desoxyribonucleic acid, is simpler than that of lipase, and even more specific for pancreatitis.[12] We have recently developed an extremely simple, accurate method which requires no expensive equipment or tedious technical manipulations.[30] This method is similar to that used by us for ribonuclease determination.[31] With this technic we have extensively studied the effects of experimental pancreatic insult upon the blood levels of DNAase and amylase in the dog.[1] The mean serum enzyme level of 3 mongrel dogs whose pancreatic ducts have been ligated showed a profound increase in amylase above the upper limit of normal while no statistically significant change in DNAase activity was found over the same time interval (figure 1). Figure 2 shows the effect of producing necrosis in the parenchymal tissue of the pancreas by injecting trypsin upon the blood levels of amylase and DNAase. The amylase remains normal, while the DNAase is markedly increased. More clinical experience with this determination is required, but the preliminary results would seem to indicate that the blood level of DNAase is an excellent indicator of pancreatic necrosis, and may provide a good means of differentiating between hemorrhagic and edematous pancreatitis.

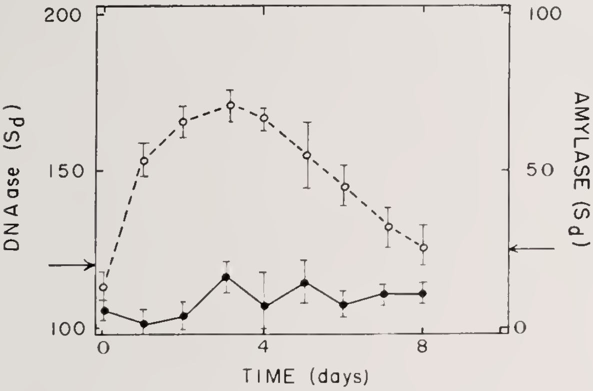

FIG. 1. Effect of pancreatic duct ligation upon serum amylase and DNAase levels—serum enzyme levels of amylase (○) and DNAase (●) in 3 mongrel dogs following the ligation of both the major and minor pancreatic ducts. Upper limits of normal are indicated by arrows and the standard deviation of each mean is illustrated by vertical lines through each point. Activities of both enzymes are expressed in micrograms of the appropriate substrate depolymerized in 30 minutes.

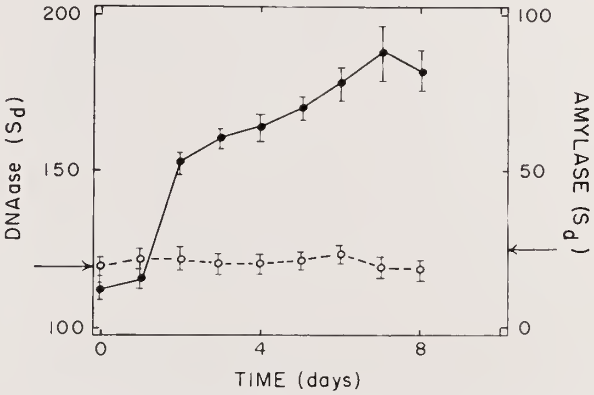

FIG. 2. Effect of injecting trypsin into the parenchyma of the pancreas upon serum amylase and DNAase levels. Mean serum amylase (○) and DNAase (●) levels in 3 mongrel dogs following injection of 6 mg. of trypsin into various parenchymal areas of the pancreas. The activities are expressed in terms of micrograms of the appropriate substrate depolymerized in 30 minutes. Arrows mark upper limits of normal, while standard deviation of the mean is indicated by vertical lines through each point.

PEPSIN

There is no appreciable amount of this proteolytic enzyme circulating in the blood. An inactive form of this enzyme, pepsinogen, is found, however, which may be assayed at pH 1.6.[32] At this pH, pepsinogen is activated to pepsin and may be simply determined by measuring its proteolysis of hemoglobin according to the convenient colorimetric method of Anson and Mirsky.[33] Blood pepsinogen is elevated in patients with duodenal ulcer and is subnormal in cases of pernicious anemia.[34] In view of the comments of the value of urinary enzymes already made, it is interesting to note that Levy and Levine[35] have found that there is no good correlation between uropepsin and gastric secretory activity.

ACETYLCHOLINESTERASE

This esterase hydrolyses acetylcholine and is therefore essential for proper neuromuscular junction activity. Besides the "true cholinesterase" of nerve tissue and erythrocyte origin, there is a "pseudocholinesterase" circulating in the plasma.[36] The "true" cholinesterase is very strongly inhibited by micromolar concentrations of organophosphoric insecticides. The effect of organophosphate insecticide poisoning may be determined by measuring the decrease in esterase activity in the patient's red blood cells. A sensitive method for the determination of acetylcholine by reaction with hydroxylamine to form a colored complex with ferric ions at acid pH has recently been developed by Fleisher and Pope.[37]

The serum "pseudocholinesterase" has been found to be decreased in cirrhosis, hepatitis, and obstructive jaundice.[38]

TRANSAMINASE

Braunstein and Kritzmann[39] showed in 1937 that animal tissues contain enzymes which remove the amino group from an amino acid and transfer it to the keto group of a carbohydrate. Cohen et al[40] showed that heart muscle contained 2 major transaminases, 1 deaminating aspartate and leaving oxalacetic acid (GOT), the other deaminating alanine and leaving pyruvate (GPT).

Using a proteolytic method devised by Karmen[41] in 1954, LaDue, Wroblewski and Karmen[42] reported the serum GOT to be considerably elevated with myocardial infarction and hepatocellular disease. These findings were duplicated by Kattus et al[5] and Chinski et al.[43] Hepatitis will often provide elevations a hundred times the normal value to 2,000 Karmen units, cirrhosis somewhat less, obstructive jaundice very much less. Myocardial infarction will produce a 10-fold increase in serum GOT activity to 200 Karmen units. Serum GPT is a more sensitive indicator in depicting acute hepatocellular damage than GOT, and is slightly effected by acute cardiac necrosis.[44] DeRitis et al[45] have shown that the ratio of GPT and GOT is inverted in viral hepatitis. Therefore, the GPT may prove to be the preferred method of determining liver damage.

The major difficulty with the method of Karmen is that it requires an expensive reagent (DPN) and an expensive spectrophotometer. Furthermore, temperature corrections must be incorporated into the calculations used to transcribe the experimental units into those of Karmen. Temperature control is critical; yet such control is difficult to attain in the rate studies required, and with the instrument used. Reitman and Frankel[46] have developed an extremely simple, inexpensive test for GOT and GPT activity by forming the hydrazones of oxalacetic or pyruvic acid and measuring the concentration of this component. I have used the transaminase kit of the Sigma Company (no. 505) and find it an extremely satisfactory simplified version of Reitman and Frankel's method, so long as the enzyme activity does not exceed 160 units.

LACTIC ACID DEHYDROGENASE

This enzyme catalyzes the hydrogenation of pyruvate to form lactic acid. The change in the ultraviolet absorption of the DPN involved in the reaction may be measured[41] or the amount of pyruvate lost during reaction may be determined by the hydrazone method of Reitman and Frankel described above. Berger and Broida have modified and simplified this procedure for the Sigma Company (no. 500), and this method has been proven to be reliable and relatively inexpensive. Serum lactic dehydrogenase has been found to be elevated in cases of leukemic and other neoplastic diseases[47] and myocardial infarction.[48] White[49] believes that this enzyme is a more specific indicator of myocardial infarction than GOT.

Spinal fluid levels of this enzyme have been found to be elevated with cerebrovascular accidents.[50]

PHOSPHOHEXOISOMERASE

This enzyme catalyses the isomeric change of glucose-6-phosphate to fructose-6-phosphate. The activity of this enzyme is measured by reacting the formed fructose with resorcinol and hydrochloric acid.[51] Bodansky[52] has shown that there is a good correlation between tumor growth secondary to breast cancer and serum isomerase. Patients with liver neoplasms also have an elevated blood enzyme level.[53]

ALDOLASE

After the formation of fructose-6-phosphate the next step in glycolysis is the formation of fructose-1,6-diphosphate. This molecule is cleaved in 2 by the enzyme aldolase. This reaction is measured colorimetrically by a hydrazone reaction with the triose-phosphate products of enzyme activity.[54] Baker and Govan[55] found large elevations in the serum aldolase level with prostatic carcinoma. Muscular dystrophy[56] and myocardial infarction[57] also result in an elevation of the serum level of this enzyme.

PHOSPHATASE

There are 2 kinds of serum enzymes which dephosphorylate organic phosphorus compounds: 1 maximally active between pH 8 and 10, the other at pH 5.0. The activity of the acid enzyme is negligible at the optimal pH of the alkaline form, and vice versa. Both enzymes may be assayed with the same substrate. King and Delory[58] have shown that p-nitrophenyl phosphate is a good substrate for phosphatase activity. The Sigma Company provides this substrate in the Phosphatase Kit (no. 104), and the activity of the enzyme is

TABLE 1

*Enzymes Associated with Clinical Conditions**

Clinical Conditions	Amylase	Lipase	DNAase	Pepsin	LDH	GOT	GPT	Isomerase	Aldolase	ACP.†	Al.P.‡
Neoplastic Disease											
General					+++						
Prostatic									+++	+++	
Bone								+++		+(?)	+++
Breast								++			
Liver Diseases											
Cirrhosis						+++	+++				+++
Obstructive jaundice						++	+++				+
Toxic jaundice						++	+++				0
Hemolytic jaundice						++	+++				
Pancreatic Disease											
Hemorrhagic	++	++	+++			+					
Edematous	+++	+	0								
Bone Diseases											
Myocardial Infarction					++	+	+(?)		+		
Muscular Dystrophy									+		
Ulcer				+							
Pernicious Anemia				−							
Neurological Disease											
Infarction						++	++				
Neoplasms						?	?				

* Increases in plasma activity are indicated by (+), (++), or (+++), decreases by (−), and no changes by (0).

† Acid phosphatase.

‡ Alkaline phosphatase.

measured colorimetrically from the yellow color produced by free p-nitrophenol upon exposure to alkali. The normal values in Bessey-Lowry units[59] for adults range from 0.8 to 2.3 and for children from 2.8 to 6.7. Alkaline phosphate is elevated in rickets, osteomalacia, osteitis deformans, and osteogenic sarcoma.[51] Roberts[60] found a marked increase in serum alkaline phosphate with obstructive jaundice but only a mild elevation with nonobstructive jaundice, while Armstrong and King[61] reported only moderate increases in toxic jaundice and no increase in hemolytic jaundice. The acid enzyme was found to be profoundly elevated in the sera of patients with prostatic carcinoma.[62] Moderate elevations are often encountered in Paget's disease.

Table 1 presents a summary of the enzyme elevations associated with a variety of clinical conditions. This table is by no means complete, but it is fairly representative of the kinds of enzymes currently under investigation in the clinical research laboratories. King[51] has recently reviewed these enzymes in some detail, and a thorough study of this article is highly recommended.

This review is of necessity superficial, incomplete and overgeneralized. I have crudely condensed a vast wealth of information representing the lifetime production of over 100 scientists into 3,500 words, and some distortion is inevitable. I hope optimistically that if nothing else, my errors and omissions may result in a more critical examination of the application of enzymology to the clinical laboratory. Only by such an approach can the diagnostic applications of enzymology be refined into a truly useful, clinical tool.

BIBLIOGRAPHY

1. Donahue, J., Houck, J. C., and Coffey, R.: Surgery, 1958, **44,** 1070.
2. Rudolph, L. A., Schaefer, J. A., Dutton, R. E., Jr., and Lyons, R. H.: J. Lab. & Clin. Med., 1957, **49,** 31.
3. Nickell, W. K., and Allbritten, F. F., Jr.: Surgery, 1957, **42,** 240.
4. Wroblewski, F.: Tr. N. York Acad. Sc., 1956, **18,** 444.
5. Kattus, A. A., Jr., and others: J. A. M. A., 1956, **160,** 16.
6. Houck, J. C., and Berman, L. B.: J. Appl. Physiol., 1958, **12,** 473.
7. Dunn, M., Martins, J., and Reissmann, K. R.: J. Lab. & Clin. Med., 1958, **51,** 259.
8. Meister, A.: J. Nat. Cancer Inst., 1950, **10,** 1263.
9. Hsieh, K. M., and Blumenthal, H. T.: Proc. Soc. Exper. Biol. & Med., 1956, **91,** 626.
10. Roth, J. S.: Biochim. et biophys. acta, 1956, **21,** 34.
11. Dubos, R. J., and MacLeod, C. M.: Proc. Soc. Exper. Biol. & Med., 1937, **36,** 696.
12. Kowlessar, O. D., and McEvoy, R. K.: J. Clin. Invest., 1956, **35,** 1325.
13. McGeachin, R. L., and Hargan, L. A.: J. Appl. Physiol., 1956, **9,** 129.
14. Berman, L. B., and Houck, J. C.: Proc. Soc. Exper. Biol. & Med., 1958, **97,** 175.
15. Green, J. B., O'Doherty, D. S., Oldewurtel, H. A., and Forster, F. M.: New England J. Med., 1957, **256,** 220.
16. Green, J. B.: Neurology, 1957, **7,** 313.
17. Sumner, J. B., and Somers, G. F.: Chemistry and Methods of Enzymes, 3rd ed. New York: Acad. Press, 1953.
18. Bernfeld, P., and Fuld, M.: Helvet. chem. acta, 1948, **31,** 1423.
19. Wohlgemuth, J.: Biochem. Ztschr., Berl., 1908, **9,** 1.
20. Smith, B. W., and Roe, J. H.: J. Biol. Chem., 1957, **227,** 357.
21. Abruzzo, J. L., Homa, M., Houck, J. C., and Coffey, R. J.: Ann. Surg., 1958, **147,** 921.
22. Burnett, W., and Ness, T. D.: Brit. M. J., 1955, **2,** 770.
23. Ravin, H. A., and Seligman, A. M.: Arch. Biochem., 1953, **42,** 337.
24. Cherry, I. S., and Crandall, L. A., Jr.: Am. J. Physiol., 1932, **100,** 266.
25. Lambert, M., and Neish, A.: Canad. J. Res., 1956, **28,** 83.
26. Bunch, L. D., and Emerson, R. L.: Clin. Chem., 1956, **2,** 75.
27. Johnson, T. A., and Bockus, H. L.: Arch. Int. Med., 1940, **66,** 62.
28. Janowitz, H. D.: Am. J. Med., 1952, **13,** 465.
29. Nachlas, M. M., and Blackburn, R.: J. Biol. Chem., 1958, **230,** 1051.
30. Houck, J. C.: Arch. Biochem., in press.
31. Houck, J. C.: Ibid., 1958, **73,** 384.
32. Mirsky, I. A., Futterman, P., Kaplan, S., and Broh-Kahn, R. H.: J. Lab. & Clin. Med., 1952, **40,** 17.
33. Anson, M. L., and Mirsky, A. E.: J. Gen. Physiol., 1932, **16,** 59.
34. Mirsky, I. A., Futterman, P., and Kaplan, S.: J. Lab. & Clin. Med., 1952, **40,** 188.
35. Levy, A. H., and Levine, S.: Gastroenterology, 1956, **30,** 270.
36. Mendel, B., and Rudney, H.: Biochem. J., 1943, **37,** 59.

(*Continued on page 59*)

3,4-DIHYDROCHLOROTHIAZIDE: CLINICAL EVALUATION OF A NEW SALURETIC AGENT* †

Preliminary Report

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HYDROCHLOROTHIAZIDE (Hydrodiuril or Esidrix) is the 3,4-dihydro derivative of chlorothiazide. On the basis of pharmacologic studies in animals it is said to be similar in action to chlorothiazide and approximately 10 times more potent so far as dosage requirement is concerned. Also the therapeutic to toxic dosage ratio was very low. The present report summarizes our preliminary results with the use of this compound in patients. Since no difference could be detected between Hydrodiuril (Merck) and Esidrix (Ciba) and since they are identical chemically, the results obtained with the hydrochlorothiazide supplied by both the pharmaceutical concerns will be summarized together.

In order to compare the saluretic potency of hydrochlorothiazide and the parent compound, the sodium, potassium and chloride excretions were carried out in non-edematous, normotensive hospitalized but convalescent patients. All patients were placed on a diet of 1.25 Gm. of salt and, in addition, were given 3 Gm. in tablet form daily. The 24-hour urine was collected for 3 days in the control period and for an additional 3 days after institution of either drug. The average 24-hour urine volume and electrolyte excretions in the first 48 hours after the drug was administered were then compared to the average obtained during the last 48 hours of the control period.

In 7 subjects given chlorothiazide in a dose of 1.5 Gm. per day (500 mg. 3 times daily) by mouth the average increase in urine volume was 49 per cent, in sodium excretion 132 per cent, in chloride 127, and in potassium 45 per cent. This served as a baseline with which to compare the effects of different dosage levels of dihydrochlorothiazide.

Eight subjects were given 150 mg. of dihydrochlorothiazide. The average saluretic response was somewhat greater in this than in the chlorothiazide-treated group. Urine volume increased 85 per cent, sodium 160 per cent, potassium 47 per cent, and chloride 207 per cent. Dosage levels of 100 mg. (4 cases) and 75 mg. per day (3 cases) induced slightly less saluretic effects than the 1,500 mg. dose of chlorothiazide.

In 8 additional subjects given only 37.5 mg. of dihydrochlorothiazide per day (12.5 mg. 3 times daily) a less marked but still significant saluresis occurred. The average increase in urine volume was 55 per cent, in sodium excretion 70 per cent, in potassium 49 per cent, and in chloride 97 per cent. However, when the dosage was reduced to 18.75 mg. per day the saluretic response became insignificant. From these results it would appear that a daily dose of approximately 125 mg. of hydrochlorothiazide would be equivalent to that of 1,500 mg. of chlorothiazide. Expressed in another way, the results suggest a dosage ratio of approximately 12 to 1 in man, hydrochlorothiazide being the more potent.

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† Submitted for publication, November 24, 1958.

In regard to serum electrolyte levels the results were similar to those observed after chlorothiazide except that serum chloride levels often fell moderately following 3 days of treatment with hydrochlorothiazide, particularly when the dosage was 100 mg. per day or higher. However, the reduction in serum chloride never exceeded the normal range, the lowest value being 93 mEq. per liter. Serum sodium concentrations did not change significantly.

Serum potassium levels fell in the majority of the subjects following 3 days of treatment, and in approximately one-fourth of the subjects it fell to subnormal levels between 3.1 and 3.5 mEq. per liter. However, such changes in serum potassium levels were seen also in chlorothiazide-treated cases.

As a diuretic hydrochlorothiazide in a dose of 50 to 150 mg. per day was effective in the so-called responsive edemas but was no more effective than chlorothiazide in the "resistant" cardiacs and in the cirrhotics with ascites. Hepatic coma was precipitated in several of the latter patients as had been previously observed in the use of chlorothiazide.

In 17 hypertensive patients who had been under treatment with chlorothiazide (500 mg. twice daily) plus other antihypertensive agents hydrochlorothiazide in a dose of 50 mg. twice daily was substituted for the chlorothiazide, the other antihypertensive medications being continued. All except 2 of these patients exhibited a moderate additional reduction in blood pressure in the first week following the substitution of dihydrochlorothiazide. These patients had been under treatment, however, with chlorothiazide for a year or longer, and moderate elevations of pressure had occurred gradually in a number of them, suggesting slight tolerance developing over a period of months of continuous treatment. In 10 patients whose body weights were measured immediately before and 1 week following substitution of dihydrochlorothiazide the body weight decreased in 7, the extent of the weight reduction varying between 1 and 3 Kg.

After 1 to 4 months of continuous treatment with hydrochlorothiazide the blood pressure remained at lower levels in all except 4 of the cases. The serum potassium levels in the 17 patients were depressed at the end of the chlorothiazide period and remained depressed following the use of hydrochlorothiazide. The serum sodium and chloride levels, however, were in the normal range and remained so after substituting hydrochlorothiazide. Other than for the hypokalemia 2 patients developed considerable emotional irritability while taking the drug, although they were able to tolerate chlorothiazide without difficulty. Two additional patients developed diabetes mellitus. Both effects may have been coincidental, and further experience will be required to determine whether the drug was responsible.

Hydrochlorothiazide appeared to have no other special properties or effects that were qualitatively different from chlorothiazide. Quantitatively the equivalent dosage was at least 10 and more probably 12 times less than that of the parent compound. Dihydrochlorothiazide appears to have clinical value, however, in the treatment of hypertension in that partial tolerance appears to develop in some patients following 1 year or more of treatment with chlorothiazide. Substitution of dihydrochlorothiazide in these cases seems to restore the original antihypertensive effect. The drug also may be useful in the occasional patient who develops sensitivity to chlorothiazide. In 1 of our patients, who reacted with a dermatitis whenever chlorothiazide was administered, hydrochlorothiazide has not as yet produced a similar effect.

THERAPY OF CHILDHOOD LEUKEMIA*

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ONE OF THE greatest challenges of modern medicine is the prevention and control of malignant diseases. In this large, seemingly heterogeneous group, leukemia stands out as an inevitably fatal condition with an incidence which is apparently increasing yearly.[1] There are now 11,000 new cases of leukemia in the United States each year[2] with 9,841 deaths certified from this cause in the U. S. in 1952, 9,918 in 1953, and 10,443 in 1954.[3]

The leukemic states have been fairly well classified in terms of duration and according to their similarities to the major normal leukocytic components of the blood, i.e., granulocytic, lymphocytic and monocytic. The incidence of the various types of leukemia varies according to age. For instance, in young children acute lymphocytic is the most common, comprising 80 per cent. Chronic myelocytic and chronic lymphocytic are found principally in older individuals.

The etiology of these leukocytic dysplasias remains an enigma, but recent advances along several lines have directed thought and research into some less explored areas.

It very well may be that these diseases have several different causations, but there is a strong belief that some external force may trigger an intrinsic potential mechanism. Evidence of this can be seen in the fact that the incidence of leukemia is statistically higher in mongolism[4, 5, 6] than in the general population. Although leukemias do not appear to be genetically transmittable diseases, there have been case reports of leukemia occurring in both uniovular twins.[7] The chance of leukemia arising in a member of a family in which the disease has been known to have previously occurred is greater than in a family which has not had a member afflicted.[8] There is no evidence that leukemia is transmitted from mother to child.

Among the external stimuli viruses and radiation are the current leads which are being pursued. Gross[9, 10, 11] has demonstrated that cell-free filtrates of leukemia tissue from AK leukemia mice inoculated into 1-day-old C3H (low incidence strain) induced leukemia at the age of about 10 months in about 80 per cent of the mice and to the offspring of the inoculated animals. Schwartz[12] has been able to hasten the production of leukemia in a strain of AKR mice by the intrathecal injection of cell-free filtrates from leukemic mice and leukemic human brain.

Recently, strong emphasis has also been placed on the role of radiation as a leukemogenic agent in adults by the various reports of the high incidence in radiologists and in victims of the atomic bombs.

Simpson et al[13] found that the incidence of leukemia was greater in a group of children who received radiation to their mediastinum for thymic enlargement than a comparable number of nonirradiated siblings. Further studies along this line are in progress.

Nonspecific therapy, such as the introduction of antibiotics and newer knowledge of the utilization of the blood transfusion methods, has added to the life span of leukemia patients.

In the last decade research has added certain drugs to the armamentarium of treatment. Although these agents have not been curative, they have made the patient more comfortable and effective as well as prolonging their lives.

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These gains have also given encouragement to workers in this field and has supplied a new level for the study of normal and leukemic cellular metabolism. With the prolongation of life that these drugs have produced has come a better understanding of the evolution and the natural history of this disease.

The drugs which are employed in acute leukemia of childhood are of 2 different types and actions. They are the antimetabolites and the steroids.

They are not used in any specific order, but certain situations may dictate the preference of one drug over another.

Farber et al[14] in 1948 reported that an analogue of folic acid, aminopterin, (4-aminopteroyl glutamic acid) was able to produce temporary remissions in children with acute leukemia. Folic acid exists in nature in equilibrium with its derivative citrovorum factor. Both of these compounds have been isolated and synthesized. Folic acid is converted to folinic acid (citrovorum factor) by an enzyme system present in liver and kidney, and this conversion is augmented by ascorbic acid. Citrovorum factor is considered to be the more readily utilizable of these compounds, while folic acid and its conjugates are held in reserve as a provitamin. The derivatives of folic acid play an essential role in the biosynthesis of nucleic acid. The analogues aminopterin and Methotrexate appear to exert their antimetabolite effect by blocking the conversion of folic acid to citrovorum factor. This effect has been demonstrated in studies with bacteria and the experimental animal and in leukemic cells. Folic acid is more essential for the growth of certain types of leukemia cells than for the rapidly growing normal erythroid and myelocytic cells of the marrow and the epithelial cells of the gastrointestinal tract. By giving very carefully controlled doses of this antagonist the body may be put in a state of relatively mild folic acid deficiency, insufficient to injure normal cells, but sufficient to damage severely the leukemic cells.

Since the recent studies of Farber a large number of patients with leukemia and other forms of cancer have been treated with folic acid antagonists. Clinically these drugs are generally given by the oral route, once daily. There are marked differences in dosage of the various antagonists. Much of the early work was done with aminopterin, but, because of experimental studies of Sarcoma 180 and leukemia in mice which suggested a greater range of therapeutic effectiveness from Methotrexate, and because of the experience of workers in this field, Methotrexate is preferred to aminopterin. Absorption of Methotrexate is equally rapid by the oral or intramuscular routes. The drug is generally given orally in a dose of 2.5 mg. daily for a 5-year-old child. On this dosage most cases can be treated for long periods without toxic manifestations. In some cases 5 mg. or more may be necessary to obtain a remission; some evidence of toxicity may then appear.

The toxic manifestations produced in man are similar to those caused by a nutritional deficiency of folic acid. The epithelium of the mouth and of the gastrointestinal tract and the bone marrow receive the most damaging effects. The oral mucosa usually shows signs of toxicity first with shallow, sore, reddened areas which may develop into ulcers if the drug is not discontinued temporarily. If these buccal lesions are ignored they may be followed by more serious manifestations in the skin and gastrointestinal tract. This includes a bright erythematous rash over the scalp, face and body, anorexia, vomiting, alopecia and diarrhea. These latter symptoms are associated with extensive denuded areas of epithelium and multiple hemorrhagic ulcers extending throughout the entirety of the intestinal tract.

The hematologic effects of toxicity are manifested by a megaloblastic transformation of the marrow with the presence of macrocytes in the peripheral blood, or in the majority of cases a complete aplasia of all bone marrow elements may occur. These acute effects on the blood picture are reversible on discontinuance of the drug, but after a prolonged administration a chronic hypoplasia of the marrow develops.

The limiting factor of the antifolic acid drugs besides its toxicity is the ability of leukemic cells to develop resistance to the drug.

If Methotrexate is used alone one can expect that a complete temporary remission will be obtained in approximately one-third of patients treated and a partial remission in another third.

The most common antipurine used in children is 6-Mercaptopurine. This compound presumably affects the incorporation of purine into nucleic acid, although the site of action in the human has not been specifically delineated. This drug is administered in a dose of 2.5 mg. per kilogram per day and can be given orally once a day.

One must obtain daily blood counts in leukemia patients with high leukocyte counts because there may be a precipitous drop after 5 to 6 days of drug therapy, at which time therapy is to be discontinued temporarily until the count is stabilized. If the drop is gradual the 6-Mercaptopurine should be continued. Remissions have occurred from 3 to 13 weeks after the onset of treatment and are usually preceded by some degree of marrow hypocellularity followed by normocellularity with normal histologic cell structure. Maintenance therapy with the drug should be continued during remission, the dose being the same as that required for the production of the remission. It is usually possible to continue the dose for months without producing marrow or peripheral blood depression. When relapse occurs it is unusual to obtain another remission by increasing the dose. Recently Hyman[15] has suggested the use of doses as large as 6.6 mg. per kg., with some benefit in recalcitrant cases.

The gastrointestinal symptoms of anorexia, nausea and vomiting are occasionally noted in patients receiving 6-Mercaptopurine and can be decreased sometimes by dividing the dose into 3 portions over the course of a day. If this is not successful it may be necessary to decrease the daily dosage. These symptoms are not an indication for stopping the drug since they do not presage further toxicity as with the antifoles. Buccal ulcerations are not commonly seen in the course of treatment with this agent.

With the above-described therapeutic agent one can expect approximately the same degree of success as with Methotrexate, i.e., one-third with complete remissions and one-third with incomplete remissions.

The hormonal therapy of acute leukemia with adrenocorticosteroids and ACTH was first suggested by the observation of Selye[16] and others who observed thymic atrophy and a fall in the blood lymphocyte and eosinophil level and a rise in the level of neutrophilic leukocytes after the use of adrenocortical extracts. This seems to be due to cell destruction as well as to suppression of cell production.

Hormone therapy was employed in leukemia in 1950 when potent extracts of adrenocortical hormones became available. The extracts used are ACTH, cortisone, hydrocortisone, prednisone and prednisolone. The last 2 drugs are now used most extensively because of their low toxicity. The steroids are of particular value because of their rapid action and their effects on blood vessels in controlling hemorrhage.

The dosages vary with the type of medication being used, but hydrocortisone in dosage of 60 to 120 mg. daily and prednisone in dosage of 10 to 40 mg. daily are the usual amounts, depending on the size of the child. As the clinical and hematologic conditions improve, maintenance therapy with smaller quantities of the drug is satisfactory. The patient is usually placed on a low-salt diet and given additional potassium. One can expect a somewhat higher remission rate with the steroids than with Methotrexate or 6 MP; i.e., approximately 60 per cent of cases will have a complete remission. The disadvantages of these drugs, besides the intrinsic sodium and electrolyte retention which occurs, are the shortness of the duration of remissions and the hazards of increased susceptibility to infection.

The choice of which drug to use initially depends on whether the patient is acutely ill and whether or not there is bleeding present. If the process is far advanced or there is evidence of bleeding, steroid therapy should be used. In any patient who is not acutely ill it is better to employ the antimetabolites and reserve the steroids for such times when they and they alone can act with sufficient rapidity to induce a remission.

Of great importance is the general supportive therapy of the patient. The use of adequate amounts of blood and the judicious use of antibiotics prolonged the life of these unfortunate individuals even before the advent of the above-described agents. Careful psychologic handling of the patients and of other members of the family is of prime importance. Constant attention to the patient's difficulties, even of a minor nature, gives reassurance to the parents that all is being done to prolong the life and insure the comfort of the child.

The average life span of the leukemic patient after diagnosis was 4 and a half months prior to 1948. With the employment of all of the described modalities the mean life span has been trebled, and it is not unusual to find a few patients who live longer than 2 years. The fact that the life span has been prolonged is not the only sign of advancement in this disease, but the satisfaction of returning these sick children to a normal or near-normal state gives one encouragement that further progress will be made in the near future.

BIBLIOGRAPHY

1. Ellison, R. R., and Burchenal, J. H.: J. Chron. Dis., 1957, **6**, 421.
2. Cameron, C. S.: M. Clin. North America, 1956, **40**, 581.
3. United States Department of Health, Education, and Welfare, Office of Vital Statistics: Special Reports—National Summaries, 1956, **44**, 12.
4. Krivit, W., and Good, R. A.: A. M. A. J. Dis. Child., 1956, **91**, 218.
5. Merrit, D. H., and Harris, J. S.: Ibid., 1956, **92**, 41.
6. Krivit, W., and Good, R. A.: Ibid., 1957, **94**, 289.
7. Anderson, R. C., and Hermann, H.: J. A. M. A., 1955, **158**, 652.
8. Vidabaech, A.: Heredity in Human Leukemia. Copenhagen: Munksgaard, 1947.
9. Gross, L.: Cancer, 1950, **3**, 1073.
10. Gross, L.: Ibid., 1953, **6**, 153.
11. Gross, L.: Ibid., 1953, **6**, 948.
12. Schwartz, S. O.: Proc. Congress of International Society of Hematology, held in Boston, Mass., Aug. 27–Sept. 1, 1956, p. 139.
13. Simpson, C. L., Hempelmann, L. H., and Fuller, L. M.: Radiology, 1955, **64**, 840.
14. Farber, S., and others: New England J. Med., 1948, **238**, 787.
15. Hyman, C. B., Brubaker, C., and Sturgeon, P.: Cancer Res., 1957, **17**, 851.
16. Selye, H.: Brit. J. Exper. Path., 1936, **17**, 234.

HAND LESIONS IN RHEUMATOID ARTHRITIS THAT ARE AMENABLE TO SURGICAL CORRECTION*

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RHEUMATOID arthritis usually affects the hands to some degree. Fortunately, in most patients function persists despite what appears to be severe anatomic deformity. Active use of the hand and wrist except during acute episodes of the disease, supplemented in some instances by physical therapeutic measures of heat, active and passive splinting, and a regulated exercise program prevent complete loss of function.

Progressive disabling deformity of the hand usually is seen in those hands in which chronic subacute inflammation persists in the synovial membrane and tendon sheaths. Subsequent to episodes of inflammation periarticular and peritendinous changes occur that lead to destruction of articular cartilage, ligamentous and muscular contracture, and in some instances tendon rupture.

The following disabilities have been improved by surgical procedures:

Stenosing tenosynovitis. In rheumatoid arthritis the long flexor tendons are usually involved. The early classical sign of a "snapping or trigger" finger may be elicited. Later the finger may be fixed in flexion. A palpable nodule is found overlying the metacarpophalangeal joint. Treatment consists of incising the tendon sheath overlying the joint and excising the redundant granulations that are to be found on the tendons.

Chronic synovitis of interphalangeal joint. Persistent synovitis of an interphalangeal joint produces chronic swelling of soft tissue, ligamentous stretching, and gradual destruction of the articular cartilage. Synovectomy of these joints is not difficult, and the results are good. Great care must be taken not to injure the extensor mechanism of the finger.

Tendon ruptures. Painless rupture of the long flexor or extensor tendons may occur. The rupture occurs at the level of the wrist. The patient's attention to the rupture is brought about by loss of some previously present function. The tendons are repaired by direct suture or by tendon graft.

Extension contracture of the fingers. This deformity, so common in rheumatoid arthritis, is due to contracture of the intrinsic muscles of the hand and is termed an "intrinsic plus" deformity. Excision of the lateral bands of the extensor apparatus will allow interphalangeal flexion although a mallet finger will be produced.

Severe ulnar deviation and subluxation at the metacarpal phalangeal joints. This severe deformity may progress to a degree where the thumb will oppose only 1 or 2 fingers. Commonly associated with this deformity is chronic synovitis of the metacarpophalangeal joint. Early synovectomy of these joints may halt progress of the deformity. After subluxation and ulnar deviation become severe arthroplasty of the joint becomes necessary. Transposition of the long extensor tendons to the radial side of the joint should also be done at the same time. Some degree of recurrence of the deformity is common, but the patients, as a rule, are pleased with their improved function.

Angulatory joint deformities. These may be corrected by joint fusion and sometimes associated osteotomies depending on the deformity and desired future function.

(Continued on page 59)

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CLEIDOCRANIAL DYSOSTOSIS

Report of Three Cases in One Family

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CLEIDOCRANIAL dysostosis, or osteodental dysplasia[1] as it has more recently been termed, made its first appearance in the medical literature in 1765 in a case report by Martin,[2] who described a family with abnormal clavicles. The present name of this condition was proposed by Marie and Sainton,[3] who in 1897 reported 2 families with what they called "dysostose cleido-cranienne hereditaire." Review of the literature reveals over 575 cases reported to this date. The purpose of this paper is (1) to present 3 new cases occurring in 1 family, 1 diagnosed at birth; (2) to emphasize the importance of the dental manifestations in the diagnosis of the disease; and (3) to present in detail the growth and development of 1 case followed from birth to the age of 1 year.

REPORT OF CASES

The first contact one of us (S. H. S.) had with this family was at the birth of the first female child. This infant was examined at the time of birth. The cranial sutures were widely open, there was a tendency to bossing, and the shoulders could be approximated in the midline with ease (fig. 1). At the same time it was noted that the mother was very short in stature and had rather marked frontal bossing and rather unusual mobility of the shoulder girdles. Review of the family history by direct questioning and examination of photographs revealed no other abnormality on either side of the family tree. X-ray films of this infant, the mother, and the other female sibling demonstrated the typical abnormalities of cleidocranial dysostosis (figs. 2–6). The father and 1 male sibling demonstrated no abnormality by physical or X-ray examinations.

The infant was fed evaporated milk-boiled water-dextrimaltose formulas from birth and was changed to homogenized vitamin D milk at the age of 6 months. Solid foods were introduced into the diet when the infant was 6 weeks old. Pediatric pan-vitamins (Vi-Mix Drops), 0.6 c.c. daily, was started when she was 3 weeks old and continued until the present time. No additional vitamin D concentrate, calcium, hormone therapy, thyroid or unusual therapy was employed. This infant raised her head at the age of 2½ months, sat at 7 months, pulled herself erect at 11 months, and walked at 13 months. The accompanying chart (fig. 7) pictures the growth curve in comparison with the norm on the Ross Laboratories Developmental Series chart. Until the infant was 28 weeks of age the weight curve remained at approximately the

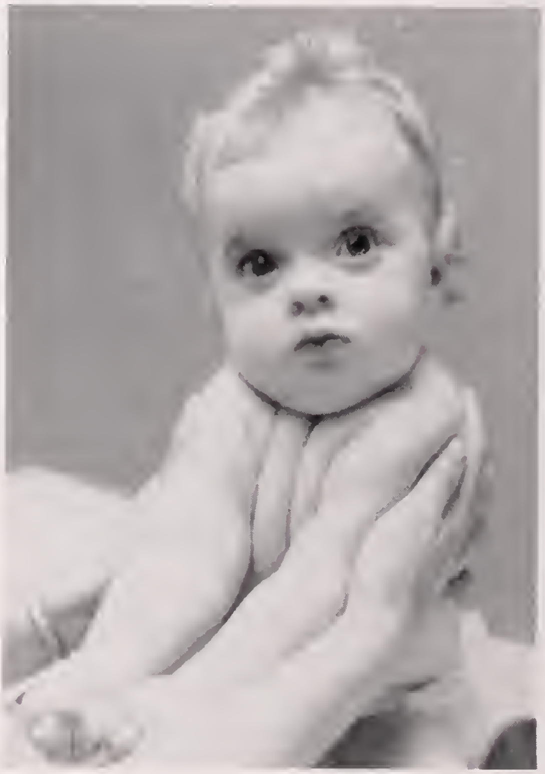


FIG. 1. L. A. K. at 18 months of age.

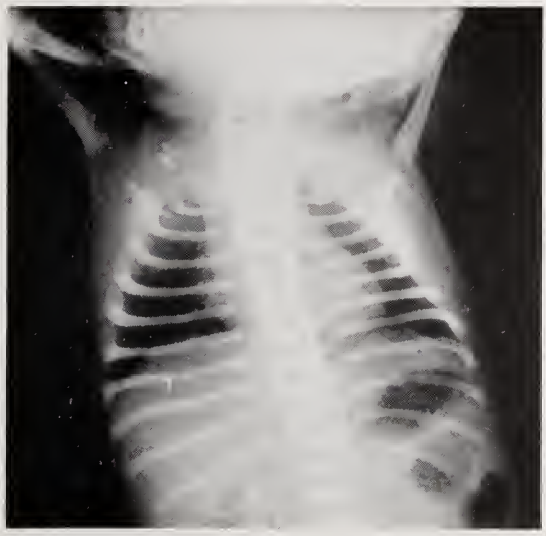


FIG. 2. L. A. K. Film made at birth.

50 percentile level. However, in the latter portion of the first year of life the curve began to fall within the lower third of the normal weight spread for age. The lower scale represents the height curve. Within the first year of life the height maintained a 50 percentile distribution.

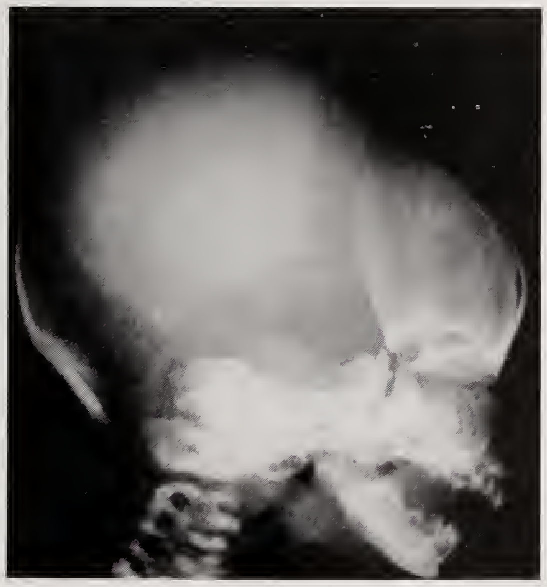


FIG. 3. L. A. K. Film made at birth.

CLINICAL MANIFESTATIONS

Clavicles. Reported abnormalities are those involving the shoulder girdle, including the clavicles, coracoids, acromion processes and scapulae as well as absence of, or rudimentary development of the sternal portion of the sternocleidomastoid muscle and clavicular attachments of the trapezius and deltoid. The muscular abnormalities are dependent upon the stage of development of the involved clavicle. The clavicle has 3 distinct centers of ossification. The sternal end is believed to be cartilaginous in origin and the acromial end membranous. There is a third center between these which develops to unite them. The presence of 3 different centers of ossification explains the variety of defects which can appear in the clavicles due to an arrest in embryologic development of any 1 or combination of any of these centers. Theories, mechanical in nature, including pressure with consequent bending of the fetal clavicles and inhibition of clavicular growth by constricting amniotic bands, do not account for either the occurrence of multiple skeletal defects or cases in which hereditary transmission is a factor.

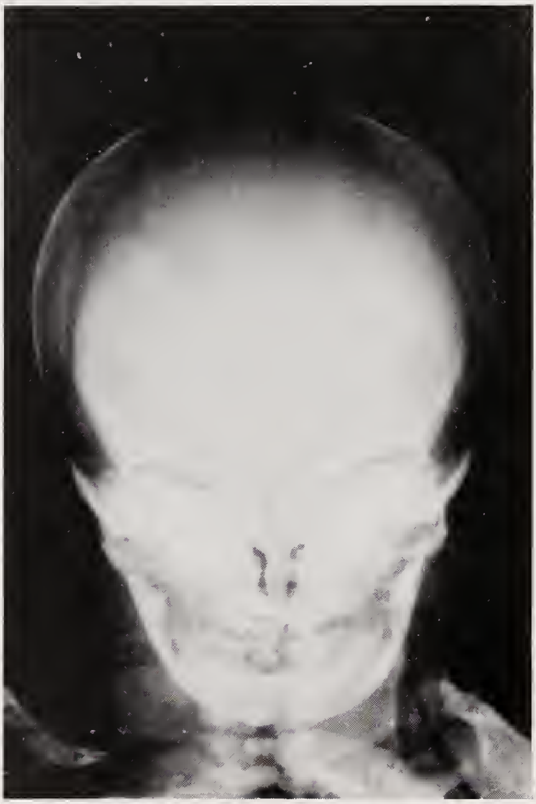
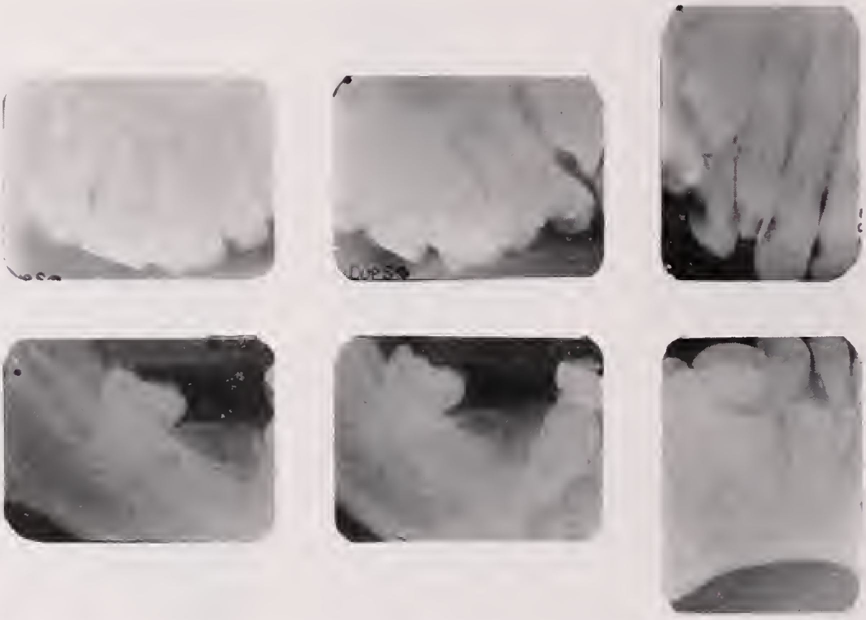


FIG. 4. L. A. K. Film made at birth.



(See legend at right)

Cranium. Reported abnormalities of the cranial bones are failure of the fontanelles to close until the sixteenth year of life, brachycephaly, dolichocephaly,[4] persistent lateral fontanelles, marked frontal and occipital protuberances, enlargement of the sella turcica, absolute or relative smallness of the facial bones, unusual prominence of the supra-orbital ridges, small or absent paranasal air sinuses, nonunion of the mandibular symphysis, prognathism, hypertelorism, synostosis between the atlas and the occipital bone, absence of the lacrimal bones, the presence of accessory centers of ossification between the main cranial bones giving rise to many wormian bones and unossified or poorly developed nasal bones and zygomatic arch.

Other manifestations. In this group can be included smallness of stature, spina bifida, abnormal growth of long bones, pigeon-breast, cleft sternum, pelvic abnormalities including incomplete ossification and distortion of the pelvic inlet, kyphosis, lordosis, scoliosis, coxa vara, genu valgum, dislocation of varied joints, cervical ribs, congenital talipes equinovarus, pes planus, bipartite hyoid, accessory ossification centers in the extremities, shortening of the middle and terminal phalanges of the fingers and toes, general weakness of ligaments, overextendability of the joints, speech defects, deafness,[5] mental deficiency, and epilepsy.

Teeth and dentition. Reported abnormalities of the teeth and dentition[6, 7, 8] are abnormally small teeth, malposition of erupted teeth, underdevelopment of the maxilla, narrow palate, cleft palate, high arched palate, abnormal exfoliation of the deciduous teeth, noneruption of the permanent teeth, malposition of the nonerupted permanent teeth, and dentigerous cysts. Although early reports, those before 1939, in the literature have not stressed the importance of dental abnormalities in this syndrome, it is increasingly obvious that dental abnormalities are a very important and integral part of the syndrome.

Cleidocranial dysostosis can be recognized by 3 principal characteristics: (1) increased transverse diameter of the cranium, (2) aplasia of 1 or both clavicles, and (3) abnormalities of the teeth and dentition. A number of investigators have included hereditary transmission as a principal characteristic, but this is not a constant feature.

ETIOLOGY

The exact etiology of cleidocranial dysostosis is unknown. Irradiation by roentgen rays, al-

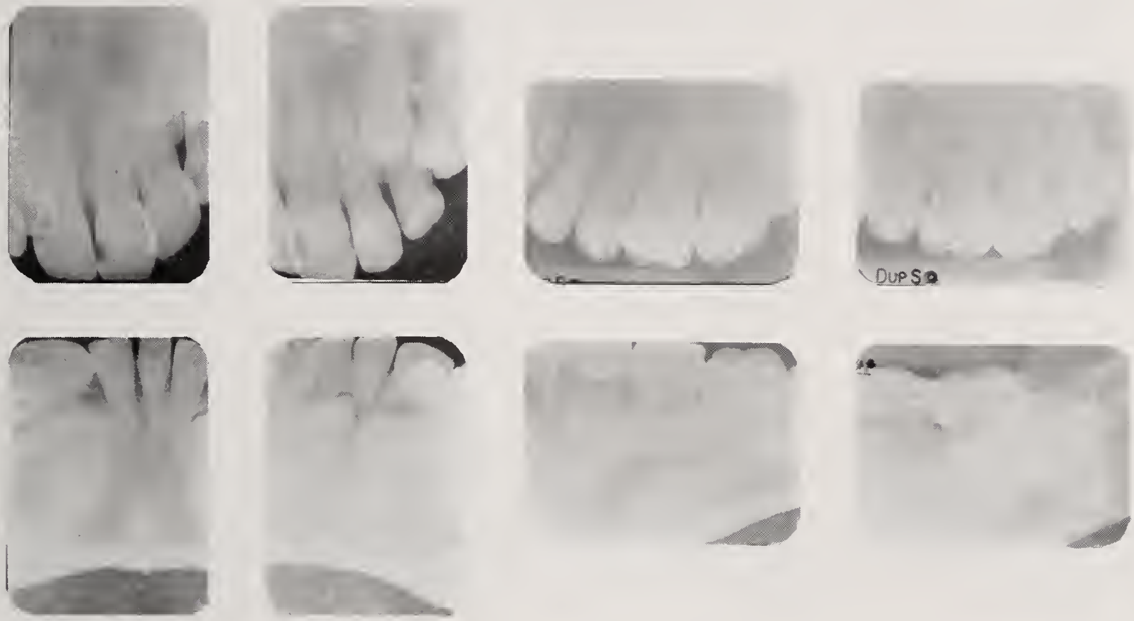


FIG. 5. Full intra-oral films of B. T. K. (mother).

coholism, tuberculosis, syphilis and endocrine disturbances have not been proven to be etiologic factors. The bones which are affected to the greatest extent are those which begin ossification the earliest in fetal life; these bones are the clavicle in the sixth fetal week, the cranium in the sixth fetal week, and the dental follicles in the eighth to ninth fetal week.[9] It is obvious as well that this condition is not solely limited to a defect in membranous bone formation. The number of bones purely cartilaginous in origin which are affected is obvious in the clinical manifestations as well as by radiographic evidence. The basic defect in this syndrome operates in the postnatal period as well as in the fetal period. The changes in the skull and clavicles are well established at birth. However, structural and radiographic changes in other bones may not be observed until a much later period and may very well be related to muscle pull and gravitational force encountered in weight-bearing and locomotion. Should bone-forming tissues be defective in the critical areas of weight-bearing, flaring of the shafts of long bones or decrease in bone growth

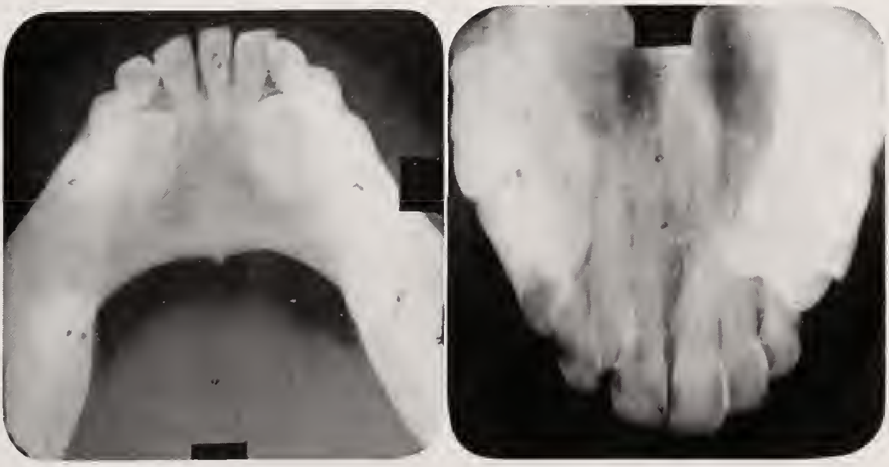


FIG. 6. Occlusal films, mandibular and maxillary (B. T. K.)

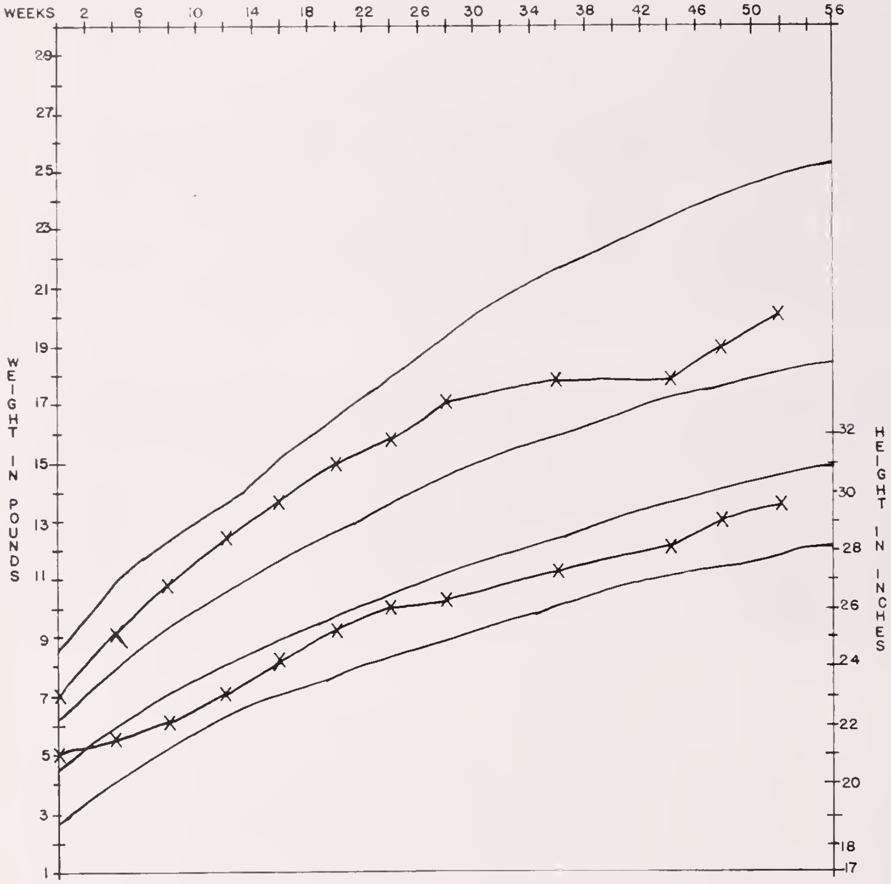


FIG. 7. Chart showing progress in weight and height of L. A. K. from birth to 56 weeks compared to ranges based on the 95 percentile level. This chart is an adaptation from that used in the Ross Laboratories Individual Infant Case Records.

may result. In cleidocranial dysostosis it is of prime importance to note that bone, once completely formed and calcified, is both grossly and microscopically indistinguishable from normal bone. No associated defect in calcium or phosphorus metabolism or phosphatase activity in the blood has ever been demonstrated. Pathologic fractures do not occur in patients with cleidocranial dysostosis; this fact is used as a point in differential diagnosis.

Formation of the teeth is likewise faulty. In the majority of instances the deciduous teeth escape entirely from defect and erupt on schedule. This seems to be a paradox, considering the early operation of the basic defect in bone formation. However, in many instances the deciduous teeth are poor in quality, erupt in abnormal positions, and are late or irregular in erupting. The permanent teeth, on the other hand, are always affected. The enamel organ and its neighboring mesenchyme develop in such a manner that embedded, unerupted teeth are always present in both the maxilla and the mandible. Very frequently supernumerary teeth are present. At times the embedded teeth are completely inverted in position. In the majority of cases these unerupted teeth are normal radiographically, although defects in the enamel of these teeth have been reported. The deciduous teeth may remain for a lifetime. The permanent teeth, once erupted, usually develop caries very quickly and are of generally poor quality.

It is obvious that the defect herein involved affects 2 of the 3 primordial germ layers. Because of the mode of operation and the early appearance of the defect, it can be traced only to a defect in the germ plasma of the original maternal or paternal cells.

GENETIC FEATURES

Overall analysis of hereditary and familial features reveals the sex incidence to be approximately of equal distribution. In a number of cases, as in this report, the affected children have been most often of the same sex as the affected parent. However, attempts to demonstrate a sex-linked dominant factor have been unsuccessful. Cleidocranial dysostosis is transmitted as a mendelian dominant with 100 per cent penetrance. Occasional skipping of a generation has been reported but has not been radiographically proven. It is important to stress that cleidocranial dysostosis is primarily a congenital abnormality and may or may not be familial and/or hereditary.

Differential Diagnosis

This should include (1) fetal chondrodystrophy, (2) osteogenesis imperfecta, (3) osteopsathyrosis, (4) rickets, (5) cretinism, (6) congenital syphilis, (7) dysostosis multiplex (Hurler's disease), (8) craniofacial dysostosis of Crouzon, (9) hydrocephalus, (10) acrocephalosyndactyly, (11) dystrophia periostalis hyperplastica familiaris (Dzierzinsky), and (12) simple familial cranial hypertrophy (Klippel-Feilstein).

Most authors mention that cleidocranial dysostosis is asymptomatic or usually asymptomatic. However, there are definite problems with which the involved individuals are confronted. They are in selected cases: (1) progressive deafness due to skull abnormalities, (2) necessity for cesarean section when there is distortion of the pelvic inlet, (3) poor overall cosmetic appearance due to short stature and widened diameter of the skull, (4) development of neuroses when there are deformities of body stature and appearance, (5) limp and other abnormal gaits due to abnormalities of the spine and hypermobility of the joints, (6) symptoms of brachial plexus pressure, and (7) the early necessity for dental prostheses.

Dental abnormalities require specialized knowledge and treatment. It is of prime importance to maintain excellent dental hygiene in this condition. Any abnormality or caries involving the deciduous teeth should be promptly treated, because in most instances these teeth are present for a lifetime. When loss of deciduous teeth occurs, either by exfoliation or extraction, replacement by prosthetic appliances should usually be done, even though unerupted or embedded teeth are present in the edentulous areas. Extraction of deciduous teeth will not at any time aid the eruption of the underlying permanent or embedded teeth; it is definitely contraindicated. However, permanent and/or embedded teeth may erupt at any time. Even in cases in which all of the deciduous teeth have either exfoliated or have been extracted and full dentures are worn it is not infrequent to encounter the necessity for extraction; a cusp of an embedded tooth may erupt and interfere with the dentures. Marked destruction of the alveolar ridge and bone would result from removal of all of the embedded teeth. It is therefore unwise to remove all of these teeth at any time before fitting full dentures. The procedure of choice is to remove only the teeth that are so near the surface that they may interfere with the fitting of dentures. Likewise, any further surgical procedure should be limited to the extraction of teeth that may erupt through the gums intermittently throughout life. Prognathism in its most severe degree may require bilateral osteotomy of the mandible. It is recommended that a dental radiographic survey be performed at regular intervals.

Medicolegal Aspects

In some instances the roentgen picture of the clavicle in cleidocranial dysostosis has been erroneously reported "fractured clavicle with non-union of fragments." This may especially occur when there has been a history of injury. One individual in Great Britain has collected damages more than 20 times by allowing his shoulders to be caught in a revolving or closing door; the roentgen picture in each instance was reported "fractured clavicle with non-union of fragments."

Summary

Three cases of cleidocranial dysostosis have been reported, the growth and development of 1 in detail for the first year of life. The importance of the dental manifestations of the disease has been stressed. Cleidocranial dysostosis is primarily a congenital abnormality which may or may not be familial and/or hereditary.

(*Continued on page 59*)

SPONTANEOUS INTERNAL BILIARY FISTULA*

Part II

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VARIOUS TYPES OF SIBF

CHOLECYSTODUODENAL FISTULA

IN 1950 Smith et al[60] complied from the literature 936 cases of SIBF, of which 59 per cent were cholecystoduodenal. Successive compilations through the years have shown an increase in the percentage of this type, Naunyn's collection[34] of 200 SIBFs having included 93 cases (46.5 per cent) in 1896. Among 1,117 operations for gallbladder disease at the Mayo Clinic Rivers and Mason[23] found 0.8 per cent of the patients to have cholecystoduodenal fistula. A similar incidence (0.66 per cent) was found in a more recent group of 9,716 biliary tract operations at this institution, reported by Epperson and Walters.[16]

In most cases the fundus of the gallbladder communicates with the first portion of the duodenum. Uncommonly it is the ampulla or neck of the gallbladder which is involved.[73, 82, 83] In many cases the anatomic structure of the gallbladder is obscured by marked cicatricial contraction or by surrounding adhesions. Thus it may not be recognizable as the gallbladder on the roentgenograms when filled with barium. The second portion of the duodenum is involved less than half as often as the first portion. In 1 case[70] of this nature the barium-filled gallbladder was interpreted as a duodenal diverticulum.

Hunt and Herbst[84] in 1925 reported an unusual case in which operation revealed a fistula between the gallbladder and a diverticulum of the duodenum. The diverticulum almost completely surrounded the duodenum and was filled with gallstones. A barium meal had revealed only pyloric obstruction, and neither the biliary fistula nor the duodenal diverticulum was suspected before surgery.

Clinical recognition of cholecystoduodenal fistula is most likely to occur shortly after passage of a large calculus through the fistula orifice. Thus, many cases have been brought to light in the course of management of an episode of gallstone ileus. Here the complete diagnosis is often lacking until laparotomy or autopsy, largely because of reluctance to perform oral barium studies in the face of intestinal obstruction. Rapid contraction and even obliteration of the fistula may obviate later diagnosis unless common duct obstruction or residual gallbladder stones remain as perpetuating factors. McQueeney[31] showed on roentgenography a cholecystoduodenal fistula which had been seen at laparotomy for gallstone ileus 19 years previously. Even in such a case one would question whether or not the fistula remained fully patent throughout the entire 19 years.

I am indebted to Dr. John Birdsell for permission to present here a case recently seen by him:

A 57-year-old diabetic white woman was admitted to North Houston Hospital with a history of indigestion and episodes of epigastric pain for the past several years. One week before admission she had epigastric and substernal pain, constipation, nausea and vomiting. These symptoms persisted to the time of admission and for 4 days in the hospital, after which time laparotomy was performed.

Examination revealed a very obese, acutely ill diabetic woman with generalized abdominal tenderness and gaseous distention. The white blood cell count was 19,500 with 80 per cent neutrophils and 4 per cent stab cells. A roentgenogram of the abdomen revealed several gas-filled distended loops of small bowel in the upper mid-abdomen with fluid levels in the erect posture. There was a minimal amount of gas in the colon. No abnormal calcifications were noted. Barium administration was not attempted. No gas shadows were seen in the biliary passages.

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* EDITOR'S NOTE: This is Part II of a thesis prepared in furtherance of advancement to Fellowship in the American College of Physicians. Part I appeared in the December 1958 issue of the MEDICAL ANNALS.

At laparotomy there was a gallstone measuring 3 by 6 cm. in the lower jejunum, approximately 4 feet from the ligament of Treitz, resulting in obstruction at this point. The small bowel above this was moderately dilated and filled with fluid and gas. The gallbladder was small and markedly thickened, containing no stones. It was densely adherent to the first part of the duodenum, a direct communication forming a cholecystoduodenal fistula. The common duct was thickened but contained no stones.

The stone in the jejunum was removed through a linear incision in the antimesenteric border, the proximal bowel was aspirated, and the defect was closed. The cholecystoduodenal fistula was separated, the gallbladder was excised, and the duodenal defect was closed. After a mild wound infection postoperatively the patient recovered fully.

Cholecystocolic Fistula

In Naunyn's collection[34] of 200 reported cases of SIBF there were 49 cholecystocolic fistulas (24.5 per cent). Fifty-four years later, with 936 SIBFs compiled, Smith et al[60] found the rate remarkably close at 23 per cent. In reporting on 153 cases of SIBF operated at Mayo Clinic up to 1925, Judd and Burden[20] stated that only 2 of these were diagnosed preoperatively, both being cases of cholecystocolic fistula. These were, in fact, the first roentgenologically diagnosed cases of cholecystocolic fistula to be reported in the literature. Subsequently, an increasing number of such reports have appeared.[28, 32, 46, 66, 74, 76, 85-89] Invariably the proximal portion of the transverse colon or the right flexure is involved in these fistulas. When the gallbladder anatomy remains recognizable it is the fundus which is found to be involved.

Prolonged diarrhea is a prominent symptom in many cases. Colicky pain in the upper abdomen is frequent but may not be typically biliary in character. The character of the stools may vary widely from time to time, their incomplete admixture with bile being evident on inspection in some instances. Hemorrhage into the bowel may occur and the simultaneous finding of blood in the vomitus or gastroduodenal aspirate may be a striking clue to the diagnosis (blood reaching the duodenum via the gallbladder and bile ducts). The impaction of a very large gallstone in the rectum, as reported by Hinchey[28] and by Kelley[46] (10.5 cm. stone), can be explained only by the presence of a cholecystocolic fistula.

A personal case exemplifying some of the features of this type of fistula is presented:

A 67-year-old white man was admitted to Jefferson Davis Hospital complaining of epigastric pain of 3 weeks' duration. With the first episode of pain he had vomited a large volume of blood, and this was followed by relief of pain and by a smaller hematemesis later that day. Since then he had noted that his stools remained black. Recurring pain, mainly at night, lasted 5 to 8 minutes and seemed to be relieved by alkali. He vaguely acknowledged having had attacks of indigestion during the past several years. Examination on admission revealed a well-nourished, pale, elderly man presenting an ill defined, non-tender mass in the right upper quadrant of the abdomen but no other pertinent findings. Laboratory data of significance were: hemoglobin 59 per cent with 3 million red blood cells; negative serologic test for syphilis; and gastric analysis—no free acid after an alcohol meal and positive test for occult blood in all specimens.

During his 30 days of hospital observation the patient passed varying amounts of bright red blood per rectum (200 to 700 c.c.) at intervals of 1 to 10 days. Light yellow stools accompanied the blood, but at other times the stool had normal color. Numerous transfusions were required, and repeated plans to perform gastrointestinal roentgenologic studies were thwarted. From time to time he complained of burning epigastric pain, indigestion, and left chest pain.

On the twenty-third hospital day he passed 700 c.c. of bright red, clotted blood in the shape of stools. Along with this he passed 2 pyramidal-shaped fecaliths (1.5 cm. in diameter), faceted in the manner of gallstones and containing a core of clotted blood. An internal biliary fistula was postulated on this finding. On the thirtieth day, while being readied in the fluoroscopic room for barium enema, the patient went into shock suddenly and died.

At autopsy the gallbladder and right flexure of the colon were found to be adherent and were imbedded in dense omental adhesions. A direct fistulous communication joined the fundus of the gallbladder with the posterior wall of the transverse colon 3 cm. to the left of the hepatic flexure. This opening was 0.3 cm. in diameter and could be stretched to 0.6 cm. The colon was filled with old blood. The gallbladder measured 5 by 2 by 2 cm., presenting a shaggy, dark red mucosa with areas of early gangrene at the fundus. The lumen contained several fragments of clotted blood, one of which was located in the ampulla and was covered by a layer of fecal material. The neck of the gallbladder contained several small irregular calculi up to 0.4 cm. in diameter. An acute inflammatory reaction was noted in the gallbladder microscopically. The hepatic and common bile ducts were dilated, the latter measuring 0.7 cm. in diameter. The distal half of the hepatic duct and the entire common duct were filled with clotted blood. Immediately above the ampulla of Vater the common duct contained a few small calculi.

Choledochoduodenal Fistula

Again comparing historical with recent compilations, 7.5 per cent of Naunyn's series[34] (15 out of 200 SIBFs) and 10 per cent of Smith's series[60] (936 SIBFs) were choledochoduodenal fistulas.

Unlike the other types, the majority of these fistulas result from peptic ulcer of the duodenum.[36] The sex ratio is 3 males to 1 female, and the age incidence is younger, perhaps by 10 years. Choledocholithiasis is infrequently found as a cause when adequate surgical or postmortem investigation is made. Rarely, both ulcer and calculi are found.[75] Carcinoma of the lower biliary passages[32] and other malignant lesions[38] have been reported to be responsible. Trauma or foreign bodies resulting from previous surgery have been known to produce this type of fistula.[42, 73]

Clinical recognition of these fistulas has been largely spurious and may be difficult even when suspected. They may be overlooked even at operation. Symptoms may be only those attributable to the ulcer, although it is said that intractability of ulcer, posterior penetration, or hemorrhage may presage fistula formation.[35] A clear-cut change in the pattern of ulcer symptoms, with biliary tract manifestations supervening, rarely occurs to provide a definite clinical clue.[9] If surgical treatment of duodenal ulcer is proposed, it is the obligation of the clinician and roentgenologist to disclose any existing fistula, since irreparable damage to the common duct may result from an attempt to resect a duodenal ulcer having an obscure communication with it.[9]

The roentgenologic demonstration of air or barium entering the common duct from the duodenum must be attributed to choledocho-enteric fistula unless disproved by surgery or autopsy.[9,56] Of many reports in the literature attributing this finding to an incompetent sphincter of Oddi,[21, 63, 64, 65, 90] few have provided convincing proof. Visualization of the biliary passages by barium has been described following the operation of transduodenal papillotomy,[91] a procedure creating the equivalent of a fistula. In addition to these cases there have been a small number of reports of barium reflux into the intact common duct well authenticated by careful surgical exploration of the extrahepatic bile ducts and the opened duodenum.[32, 67]

Cholecystogastric Fistula

Naunyn's collection[34] of SIBFs included 4 per cent of this type. Smith's recent report[60] included 8 per cent. Almost always the gallbladder fundus communicates with the antral portion of the stomach in these fistulas. Etiologically they may be grouped with cholecystoduodenal fistulas, the antrum rather than the duodenum serving as the gastrointestinal portal merely because of anatomic variance. Although the great majority are associated with cholecystolithiasis,[4, 12, 44, 46, 53, 77] an occasional case results from empyema of the gallbladder,[36] carcinoma of the gallbladder,[55] or carcinoma of the stomach.[20] Surgically created cholecystogastrostomy is often demonstrated by barium meal but evidently is seldom reported,[16, 92, 93] since it is not of great interest.

The clinical manifestations and roentgenologic findings are depicted in the following report of a personal case:

The patient was a white man, 66 years of age at the time his fistula was conclusively diagnosed. Symptoms began 7 years previously with episodes of dull pain in the right subcostal region accompanied by nausea, especially after ingestion of oily or highly seasoned foods. Pain occurred 4 hours after meals mainly and was relieved by alkali. Symptoms persisted, varying in severity, for the next 3 years, after which he experienced an additional pain, mid-epigastric in location and different in character. A peptic ulcer régime was prescribed, but symptoms remained unabated, although he still obtained relief of pains from alkali. On one occasion, 5 years after the onset of the earliest symptoms, he had an episode of severe, sharp, continuous epigastric pain lasting 12 hours. On taking an enema during this episode he noticed black fecal material followed by some "white lumps" together with some blood.

Roentgenographic studies were performed 4 days after this episode. A gallbladder shadow could not be identified after administration of Priodax. Oral barium study revealed an apparent niche on the lesser curvature of the gastric antrum with a small gas shadow above the barium. The first part of the duodenum was irregular and directed posteriorly. An internal biliary fistula was suspected at this time, but filling of the biliary ducts was not visualized and consultations with roentgenologist and surgeon resulted in a decision to attempt intensive ulcer therapy.

During the next year his abdominal pains occurred rarely and there were no acute episodes. He was troubled at times by constipation and abdominal bloating. Roentgenologic studies were repeated, and the findings were essentially the same as before.

He was next seen a year later, reporting that he had had pneumonia 2 months previously, according to his home-town physician. During this illness he suddenly had severe vomiting after breakfast, producing pure bile after the food. During the afternoon of the same day he had a sudden severe mid-epigastric pain, which persisted in the pattern of colic for 18 hours. After 7 days of gastric suction and intravenous feeding he was well of his pneumonia and there was no recurrence of pain. The stools were noted to be light in color following the episode of pain.

After recovery from this illness a complete reëvaluation was done. Physical examination revealed no positive signs pertinent to the gastrointestinal lesion. There were pallor, weakness, and evident weight loss. Cardiovascular and respiratory systems were not unusual. There was a small abdominal hernia at the site of a left upper quadrant scar resulting from splenectomy for ruptured spleen 10 years earlier. There was some gaseous distention but no mass or tenderness. Hematologic and urinary values were normal. Serum bilirubin was 0.45 mg. per cent. On gastric analysis all specimens were heavily bile-stained and maximal free acid was 27 degrees. Barium meal study at this time included thorough fluoroscopy and film exposures in all frontal and oblique projections in recumbency. In the right posterior oblique position the barium filled a small globular structure continuous with the gastric antrum at the site of the previously observed niche. Thence, barium rapidly filled the extrahepatic bile ducts and many of the intrahepatic radicles.

At laparotomy, performed by Dr. John C. Kennedy, the antral portion of the stomach and first portion of the duodenum were densely adherent to the gallbladder and inferior surface of the liver. The fundus of the gallbladder communicated with the anterior wall of the antrum 5 cm. from the pylorus by a direct fistulous opening 1 cm. in diameter. The gallbladder was small, thick-walled, and densely fibrotic. The stomach showed no evidence of an ulcer at the site of the fistula. The gallbladder was excised after separation from the stomach, and the defect in the stomach was closed. A serosal scar on the anterior aspect of the duodenal bulb bordering on the pylorus indicated a healed peptic ulcer. The common duct was explored and was patent.

Comment. Cholecystitis and probable cholelithiasis appear to have been the etiology of this fistula. The episode which occurred 2 years prior to the surgery was highly suggestive of the passage of calculus through the fistula. Whether this was the time of formation of the fistula or whether it had been present for years previously is a matter for conjecture. The episode a year prior to surgery may have been again due to the passage of a calculus.

RARER FISTULAS

Among the bilio-enteric fistulas a number of unusual communications have been reported. Some of these have been found in patients who have undergone previous biliary tract surgery, particularly when the biliary tract lesion has not been adequately corrected.[94] Anastomosis of the cystic duct stump to the duodenum[7] or stomach[4] has been found following cholecystectomies. Gray and Sharpe[95] described a complex cholecystogastroduodenocutaneous fistula which followed a cholecystostomy. In Horn's case[96] the common hepatic duct had formed a fistula with the duodenum following a cholecystectomy complicated by obliteration of the choledochus. In a 26 year-old-man without prior surgery Jenkins[47] found at operation a fistula between the proximal hepatic duct and stomach secondary to calculi with obliteration of the distal hepatic and common ducts. Additional cases of communication of the hepatic duct[7, 8, 12] or cystic duct[20] with the duodenum have been reported. Choledochogastric fistula secondary to gastric ulcer has been reported by Sullivan[9] and by Garland and Brown.[36] Other unusual forms are choledochocolic,[8, 34, 36] cholecystojejunal,[2] and cholecystoileal.[2]

It is not surprising to encounter reports of complex or multiple fistulas in which both duodenum and colon communicate with the gallbladder considering the anatomic proximity of the 3 organs. In most instances[12, 20, 30, 36, 52] findings have incriminated cholecystitis and cholelithiasis as the cause. Mayo Robson[27] described a gallbladder which had separate connections with the stomach and colon. Wakefield et al[97] found 11 cases of multiple fistulas in their review of 176 SIBFs at the Mayo Clinic. Twenty-four cases of rupture of the gallbladder into the abdominal cavity are included in this report.

Interbiliary communications are exceedingly rare, usually being between the gallbladder and common duct. All 3 of such cases reported by Behrend and Cullen[98] had obliteration of the cystic duct and 1 of these had a cholecystoduodenal fistula as well. Similar cases have been reported by Ilgenfritz[83] and by Puestow.[12]

Communications of the biliary tract with the urinary tract and the genital organs are truly pathologic curiosities. They are largely of historical interest,[2, 20, 27, 99] being reported in the very old literature.

Bronchobiliary fistulas, although very rare, have engendered great interest. Morton and Phillips[100] in 1928 presented a comprehensive review of the subject, describing in detail 49 cases collected from the literature and adding one of their own. These were cases with etiologies other than Echinococcus disease, the commonest cause, and amebic abscess, the second commonest cause of bronchobiliary fistulas. The third commonest cause is suppuration due to biliary tract disease, the abscesses occurring mostly in the subphrenic space, liver, gallbladder, or bile ducts. Biliary tract obstruction is nearly always an etiologic factor. If this obstruction is corrected the bronchobiliary fistula usually heals promptly as illustrated by the case report of Meredith.[101] The subphrenic abscess is usually located over the uppermost part of the liver, and the posterior or lateral portion of the lower lobe of the right lung is involved. A gallbladder adherent to the diaphragm, however, involves the anterior portion of the lung. Morton and Phillips[100] stated that the constant presence of bile in the sputum is sufficient to establish the diagnosis. The volume of sputum is usually in excess of 500 ml. per day and is obviously nearly pure bile. Gallstones may be expectorated. Laird and Wilkerson[102] in 1932 reported the first case to be clearly delineated by bronchography. Seelig and Singer[103] unsuccessfully attempted this in their case.

GALLSTONE ILEUS

Gallstone ileus is the clinical corollary of spontaneous internal biliary fistula. It is often the development of this complication which brings the patient with long neglected cholelithiasis to medical attention. Obstruction is most liable to occur within a short time after fistula formation and extrusion of a stone into the bowel. But obstruction may be insidious or intermittent, and a stone may remain in the bowel for days, weeks, or even beyond a year.[104] F. Martin[99] states that 50 per cent of stones causing symptoms of intestinal obstruction are eventually defecated.

Incidence. In 1925 Moore[104] estimated that 400 cases of gallstone ileus had been reported up to that time. Table 5 summarizes a number of other reports showing the incidence of gallstone ileus among cases of intestinal obstruction due to all causes. The largest collection of reports, by Hand and Gilmore,[19] showing an incidence of 1.7 per cent, conforms to the estimate of most writers of an incidence between 1 and 2 per cent.

Source of stone. In virtually all cases a gallstone causing intestinal obstruction has reached the

TABLE 5

Incidence of Gallstone Ileus among Intestinal Obstruction Series

Author	Dates	Cases of Ileus	Material Reviewed	Per cent Gall-stone Ileus
Barnard[82]	1902	8	360 cases intestinal obstruction (8-year period)	2.2
Moore [104]	1925	2	239 cases intestinal obstruction at Massachusetts General Hospital (20-year period)	0.8
Souttar[105]	1925	28	1,655 cases intestinal obstruction	1.7
Bennett[106]	1926	28	3,064 cases intestinal obstruction, reported at meeting of British Medical Association	0.9
Vick[17]	1932	47	6,892 cases intestinal obstruction collected from 21 British hospitals	0.68
McQueeney[31]	1939	149	7,232 cases intestinal obstruction collected from reports in literature	2
Dulin and Peterson[48]	1939	10	All cases intestinal obstruction at University of Iowa School of Medicine (10-year period)	5.3
Hinchey[107]	1940	13	217 cases intestinal obstruction, Salem Hospital (5-year period)	6.0
Mayo et al[108]	1940	2	136 cases intestinal obstruction, Mayo Clinic (5-year period)	1.4
Hand and Gilmore[19]	1943	208	12,153 cases intestinal obstruction found in literature	1.7

bowel through a cholecystoduodenal fistula. Rare exceptions are cholecystojejunal fistulas and some cases of cholecystocolic fistula admitting very large stones. In 30 autopsied cases reported by Courvoisier[2] 28 had cholecystoduodenal fistulas and 2 had cholecystocolic fistulas. Two out of 15 cases of gallstone ileus of Coffey and Willox[43] were of the latter origin, as was 1 out of 10 reported by Wakefield et al,[97] the remainder in each series being cholecystoduodenal. Courvoisier's epochal study[2] included 4 cases of gallstone ileus in which autopsy revealed great dilatation of the common duct and absence of biliary fistula. Murphy,[109] likewise, observed cases in which the stone causing ileus had evidently passed through the intact dilated bile ducts. Snyder[110] reported a case of gallstone ileus with autopsy in which the cystic and common ducts were greatly dilated and the gallbladder was densely adherent to the duodenum. Hinchey[28] points out that in some cases this route is mistakenly assumed since the responsible fistula may be closed by the time operation or autopsy is done. A careful review of case reports indicates that such may have occurred in some of the above-mentioned cases.

Size of stone. The dictum of Bernhard[11] that a stone less than 2.5 cm. in diameter is likely to pass through the bowel without causing obstruction has been widely accepted. In the cases of Coffey and Willox[43] stone sizes ranged from 2.2 cm. in diameter to 3.0 cm. by 4.5 cm. In 1 of their cases a 3.5 cm. stone entered the duodenum, passed through the ileocecal valve, and obstructed the sigmoid colon. Accretion of fecal material may increase the size of a small stone to a mass large enough to become impacted.[111] Multiple stones at the site of obstruction are occasionally found, as reported by Grey Turner,[24] Hinchey,[28] and Santora.[112]

Mechanism of obstruction. The small intestine narrows progressively from proximal to distal end. Thus, a gallstone causes obstruction by obturation when it reaches a point in the bowel beyond which the lumen is too small for its continued transit. Perhaps bowel spasm and inflammatory swelling aid in the arrest. In some instances a preëxisting bowel lesion contributes to the obstruction, such as regional enteritis, carcinoma, diverticulitis, or angulation due to adhesions. Manfredi[51] reported a case in which a calculus was arrested where a loop of ileum was trapped between the uterus and an ovarian cyst. Obstruction is characteristically intermittent and in many cases incomplete as observed clinically, suggesting that bowel spasm or reversible mechanical factors may play a part in arrest of the stone.

Site of obstruction. In the majority of cases the obstructing stone is found in the lower ileum, usually within 2 feet of the ileocecal valve. Very large stones may become lodged in the duodenum or jejunum; the duodenojejunal flexure[113] is a favorite resting place. In the colon, the left flexure, sigmoid, and rectum[45] are the usual places of impaction. In the 15 cases of Coffey and Willox[43] the stone became impacted in the ileum in 9, the jejunum in 3, and the sigmoid in 3 (cholecystocolic fistulas in 2 of these). In 150 collected cases of Foss and Summers[111] the sites were: ileum in 125, jejunum in 14, duodenum in 6, colon in 3, and rectum in 2. At operation a search for additional stones in the bowel and gallbladder is imperative. Instances of recurrent obstruction due to residual stones have been reported by Welch et al,[80] Hinchey,[107] and Mast.[114] In 10 of Foss and Summers' 150 collected cases[111] a second stone was found, some distal and some proximal to the site of obstruction.

Symptoms and signs. Most writers[28, 43, 111, 115] presenting large series of cases emphasize the fact that only about half of the patients give a clear-cut history indicative of previous biliary-tract disease. The majority of patients give a history of gradually developing or intermittently occurring colicky abdominal pain, vomiting and constipation for several days. The symptoms are more severe and unremitting when the stone is lodged in the duodenum or jejunum.[99] Distention is not likely to be of marked degree, and signs of peritoneal irritation are usually absent, since strangulation of the bowel does not ordinarily occur as with obstruction due to other causes. The obstructing stone is rarely palpable, except when impacted in the rectum. In the vast majority of cases of gallstone ileus the classical syndromes or tell-tale signs described under clinical manifestations of SIBF are not in evidence, and the true nature of the obstruction is recognized only at operation or by virtue of an unexpected roentgenologic sign observed on films of the abdomen.

Roentgenologic signs. For the most part these have been brought out earlier in this paper. Barium studies are considered contraindicated in the patient with bowel obstruction, and the condition of the patient is usually so acute as to preclude cholecystography. Thus, the signs which ordinarily point to the nature of the obstruction are: (1) gas in the biliary tract, (2) a solitary faceted stone in the gallbladder, (3) disappearance of a previously demonstrated stone from the gallbladder, or (4) a biliary type calculus in the intestinal tract. Gas in the biliary tract and stones in the intestine may be overlooked[43] on scout films, and these signs are sometimes recognized only on retrospective film study after surgery has revealed the diagnosis. The pattern of the dilated small intestine tends to obscure stone shadows.[51] Intestinal decompression may permit visualization of a stone previously not demonstrable.[60] Hinchey[28] suggested that administration of a small amount of barium sulfate through the Miller-Abbott tube may serve to outline a nonopaque calculus in the bowel. He also considered a change in the pattern of bowel gas shadows as being suggestive, and Rigler et al[72] illustrated the value of a change in location of a stone on successive films.

That the administration of a barium meal may be ventured in certain cases and that it proves fruitful whenever done are borne out in a number of case reports. The biliary passages,[28, 45, 112, 116] the stone in the bowel itself,[43] or both[40, 72, 78] may be outlined by the barium.

TREATMENT OF SIBF AND GALLSTONE ILEUS

It is beyond the scope of this paper to present the details of surgical treatment of these lesions. Some general principles regarding overall management will be discussed. While definitive treatment is surgical, the internist and roentgenologist can play a large part in bringing the patient to surgery with as complete a diagnosis as possible and in optimal condition for a surgical procedure.

The urgency of surgical attack when gallstone ileus is encountered is obvious. The mortality rate of this condition has been 50 per cent. When obstruction is complete there is imminent danger of perforation of the bowel. Often, however, there is incomplete or intermittent obstruction and there is time for careful diagnostic evaluation while measures are being undertaken to control infection and restore nutrition, fluid and electrolytes.

Intestinal intubation and decompression may contribute to the diagnosis as well as decrease the risk of surgery, but it must not be prolonged once gallstone ileus is diagnosed or suspected because of the particular liability to intestinal perforation in this form of obstruction.

There is wide variance of opinion on whether or not to attack the fistula surgically. Many surgeons feel that this should be left untouched at operation for removal of an obstructing intestinal stone, yet many others have successfully repaired the fistula at the same operation. Although it is true that many fistulas heal spontaneously after extrusion of a stone, it is undesirable to leave behind a nidus in which unrecognized stones may remain or new ones form in the future. The decision would seem to depend on a number of factors in the individual case, including general condition at the time of surgery, extent of the surgical procedure required, size of the fistulous aperture, presence of residual stones in the biliary tract, and presence of complications such as cholangitis.

Cholecystocolic fistulas carry the greatest risk of biliary tract infection. They should be repaired whenever feasible. Choledochoduodenal fistulas due to duodenal ulcer are relatively innocuous and may be expected to heal with successful medical management of the ulcer disease. Otherwise, subtotal gastrectomy and vagotomy may become necessary.

The other cholecysto-enteric fistulas, when discovered in the absence of gallstone ileus, warrant surgical exploration since their continued presence poses a threat of liver damage, future gallstone ileus, or hemorrhage. The surgical risk today should not be based on past mortality statistics in view of the great advantages provided by the advances in medical and surgical management of recent years.

BIBLIOGRAPHY

82. Barnard, H. L.: Ann Surg., 1902, **36**, 161.
83. Ilgenfritz, H. C.: New Orleans M. & S. J., 1952. **104**, 538.
84. Hunt, V. C., and Herbst, W. P.: S. Clin. North America, 1925, **5**, 807.
85. Candel, S., and Wolfson, W. L.: J. A. M. A., 1935, **105**, 188.
86. Lonnerblad, L.: Acta radiol., 1932, **13**, 551.
87. Medelman, J. P.: Am. J. Roentgenol., 1936, **36**, 52.
88. Michels, A. G., and Hoerr, S. O.: Cleveland Clin. Quart., 1951, **18**, 184.
89. Startz, I. S.: Am. J. Roentgenol., 1936, **36**, 518.
90. Davis, L.: New England J. Med., 1929, **200**, 313.
91. Kohler, B.: Acta chir. Scandinav., 1936, **77**, 155.
92. O'Bannon, R. P.: Radiology, 1928, **10**, 162.
93. Ralphs, G.: Brit. M. J., 1922, **1**, 14.
94. Lahey, F. H.: Ann. Surg., 1930, **92**, 649.
95. Gray, H. K., and Sharpe, W. S.: Ibid., 1945, **122**, 48.
96. Horn, H.: J. Mt. Sinai Hosp., 1936, **3**, 29.
97. Wakefield, E. G., Vickers, P. M., and Walters, W.: Surgery, 1939, **5**, 674.
98. Behrend, A., and Cullen, M. L.: Ann. Surg., 1950, **132**, 297.
99. Martin, F.: Ibid., 1912, **55**, 725.
100. Morton, J. J., and Phillips, E. W.: Arch. Surg., 1928, **16**, 697.
101. Meredith, E. W.: Pennsylvania M. J., 1930, **33**, 389.
102. Laird, W. R., and Wilkerson, W. V.: Am. J. Surg., 1932, **15**, 317.
103. Seelig, M. G., and Singer, J. J.: Arch. Surg., 1929, **19**, 149.
104. Moore, G. A.: Boston M. & S. J., 1925, **192**, 1051.
105. Souttar, H. S.: Brit. M. J., 1925, **2**, 1000.
106. Bennett, C.: Ibid., 1926, **1**, 565.
107. Hinchey, P. R.: New England J. Med., 1940, **223**, 174.
108. Mayo, C. W., Miller, J. M., and Stalker, L. K.: Surg. Gynec. & Obst., 1940, **71**, 589.
109. Murphy, J. B.: Illinois M. J., 1910, **18**, 272.
110. Snyder, L. H. (Washington, D. C.): South. M. J., 1938, **31**, 1275.
111. Foss, H. L., and Summers, J. D.: Ann. Surg., 1942, **115**, 721.
112. Santora, P. J.: Radiology, 1943, **41**, 74.
113. Crane, A. W.: Am. J. Roentgenol., 1931, **26**, 92
114. Mast, W. H.: Am. J. Surg., 1932, **32**, 516.
115. Wakeley, C. P. G., and Willway, F. W.: Brit. J. Surg., 1935, **23**, 377.
116. Alexander, R. M.: J. Mt. Sinai Hosp., 1950, **17**, 183.

President's Page

BY WAY OF INTRODUCTION

This New Year inaugurates a change in the Society's organizational year so that it corresponds with the calendar year instead of beginning July first, as in the past. This change will materially increase the efficiency of the Society's operation. Newly appointed committees will organize promptly and enter at once upon their duties without the delay previously caused by summer vacations and the slower pace of a Washington summer. With the many problems facing the Society, committees as well as other members can expect a busy year.

The importance of selecting those best suited to be chairmen or members of committees cannot be overemphasized. Because of its size the Society cannot function through a town meeting type of organization as it once did, but must accomplish its work through a number of committees, each of which is established to deal with some particular field or problem. Just as good selection of chairmen and members of committees is essential to successful operation of the Society, so is it equally important that those chosen take the time necessary to attend committee meetings. Except for those who have served on committees, most members of the Society have little idea of the time and effort which must be spent in this work which is of such importance to the medical profession and to the public.

Because the proper functioning of committees is so vital to the conduct of the Society's affairs, the response to my letter asking for volunteers for committee appointments was most gratifying. One might say it was almost overwhelming, for the number of replies has exceeded the places on committees by approximately two to one. Such a response is reassuring but it has made the task of selection difficult. Unfortunately, many members who expressed a willingness to serve cannot be appointed at this time, though later there may be a need if special committees are required, as they often are. Whether as a part of a fixed committee or not, each member of this Society is a representative of the medical profession in the eyes of his patients and the public. Therefore, he must govern himself accordingly.

W LeRoy Dunn

W. LEROY DUNN, M.D., F.A.C.P.

President, The Medical Society of the District of Columbia, 1959

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OF THE DISTRICT OF COLUMBIA

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Editorials

W. LEROY DUNN, M.D., F.A.C.P.

Dr. W. LeRoy Dunn, 92nd President of the Medical Society of the District of Columbia, follows in the footsteps of a number of native Virginians who have been honored by Washington physicians. None of them have been more worthy of recognition than Dr. Dunn nor better qualified to assume the responsibilities of medical leadership which will be his lot in 1959.

Dr. Dunn has more than lived up to the designation, "Active member." For nearly a quarter of a century he has served the Society in various capacities, often as chairman of a committee. Since he was elected President-elect he has faithfully attended meetings of the various committees of the Society for the purpose of orienting himself for the task ahead. Few other Presidents of the Society have been more fully aware of the scope of their responsi-

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of The Medical Society of the District of Columbia

bilities and the serious problems which confront medicine.

Born in Gordonsville, Virginia, August 30, 1899, he was the son of William M. and Vira E. Hunter Dunn. He received his early education in Ashland, Virginia, subsequently attending Randolph-Macon College (1915–1918) and the University of Virginia, where he obtained his Bachelor of Arts degree in 1919 and his Master of Arts degree in 1922. He was graduated from the University of Virginia School of Medicine in June, 1926.

He served internships at Blue Ridge Sanatorium, Charlottesville, Virginia (June–December, 1926), and St. Luke's Hospital, New York City (1927–1929). He was a resident in the Tuberculosis Division, Bellevue Hospital, New York (1929–1930). He was appointed an Associate in Medicine at D. C. General Hospital (then Gallinger Hospital), Washington, D. C., in 1933. He resigned this position in 1936 and became Associate in Medicine at Garfield Memorial Hospital in 1938.

Dr. Dunn was licensed to practice in the District of Columbia in 1930, specializing in internal medicine. Subsequently he was certified by the American Board of Internal Medicine. He is a Fellow of the American College of Physicians and the American College of Chest Physicians, a member of the American Medical Association, the Southern Medical Association, the American Trudeau Society, and the American Association for the Advancement of Science.

Dr. Dunn has for many years been active in the Tuberculosis Associations in the District of Columbia and Arlington County, Virginia. He was attending physician to the Health Department's Chest Clinic (1936–1957).

Dr. Dunn has all the fine characteristics of the family physician of another generation plus the best technical training modern medicine has to offer. As his friends can testify, he is a comfortable man to be with. He likes people, and they are instinctively aware of it. Patients readily place their complete confidence in him.

Organizations have found him a very valuable asset in that he has become quite expert in preparing or revising their constitutions and by-laws. He has recently completed this task for the Society. He protests, however, that he is now "retiring from the field," having done his stint.

As for his hobbies, he is a "handy man" around his home in Arlington, Virginia, where he likes to tinker. Walking, too, is another hobby that both he and Mrs. Dunn, who, incidentally, is also a distinguished physician in her own right, indulge in. They have both long been nature lovers and frequently take long walks together.

Members who are not privileged to know Dr. Dunn will discover in him a very understanding colleague who will serve them well and with distinction.

A PROJECT TO AID COLLEAGUES IN UNDERDEVELOPED COUNTRIES

The American doctor's dilemma today is the problem of selectivity. He must select his journals, his lectures, and his interests from the enormous amount of material so readily available. Yet in other lands the opposite situation exists. In emerging Asian and African countries a hunger for learning is steadily growing. Medical personnel in these areas are acutely aware of the gaps in their knowledge. African medical schools are just beginning to make a small mark on the skyline, but often their graduating classes consist of only 10 to 20 students. Postgraduate medical training in underdeveloped areas is practically nonexistent. In many countries journals, in addition to being scarce, are often too expensive, especially when it comes to subscribing to an American periodical. What a contrast this is to the estimated 10,000 journals received by Washington physicians monthly.

How many times have you tossed out journals or begrudgingly made available precious space in your home or office for them? These same journals that are collecting dust and filling our shelves could fill a real need for doctors practicing and teaching in less advanced areas.

The idea has occurred to a small group of Washington physicians that an index be established whereby an individual doctor in Washington can send one or more of his journals at 3- to 4-month intervals to a colleague in Asia or Africa. The postage involved is surprisingly small (for example, 4 issues of *Annals of Internal Medicine* can reach a doctor in India for approximately 70 cents).

Contact has already been made with doctors in Ceylon, Burma, Sudan, Pakistan, India, the Philippines, Turkey and Egygt, because the medical language in these countries is English. Lists have been requested with the names, addresses and special interests of physicians of these nations. We now have such information available. The next step is to match each of these doctors with a doctor from our community, with the emphasis on specialty and/or interest so that the recipient will receive the journal most valuable to him in his work. Journals of general interest would also be welcomed by all physicians. Preferably journals should not be more than 1 to 2 years old.

If each doctor could send one journal to one doctor overseas, the combined impact of our large medical group will have a significant and long-lasting effect on the spread of knowledge, promotion of friendship, and the encouragement of those who care for the sick and suffering in distant lands under less than ideal circumstances.

The members of the Executive Board of the Medical Society of the District of Columbia have endorsed this program and are actively supporting it. Any physician interested in participating may receive a foreign doctor's name, address and supplemental instructions by dropping a card to the undersigned at 2520 K Street, N.W. (7), or by calling Federal 3-2351 after 7:00 p.m.

STANLEY J. TALPERS, M.D.

THE NEW MEDICOLEGAL GUIDE

Over the past several years joint committees from the District of Columbia Bar Association and the Medical Society of the District of Columbia have attempted to formulate a set of standards to guide lawyers and physicians in medicolegal matters.

This has culminated in the report published elsewhere in this issue of the ANNALS, entitled, "A Guide for Practice, Medicolegal Relations, for the District of Columbia." This Guide has been formally accepted by both of these associations. The purpose of the Guide is clearly defined in those words of its preamble which state, ". . . physicians and attorneys harmoniously working for the best interests of the person who has sought their respective services."

The first part of the Guide deals with the obligations of physicians in the care of patients whose injury or illness has a legal aspect. It specifies the basic notes of a medical report in such cases and tells when and how such reports may be furnished.

The section on medical testimony is directed toward the attorney as well as the physician. Its provisions seem to be rather complete, and beneficial, I believe, if they were carefully followed by both professions. The recommendations to attorneys stress the importance of medical reports and point out the value of coöperation with the physician.

It offers extremely practical guides for the employment of the physician as a witness and points out quite appropriately that the physician is practically never an ordinary witness. It also advises the attorney that he should protect the physician's interests in the way of financial reimbursement. Lastly, it gives considerate and helpful guides for the attorney to make the best use of the physician as a witness in court.

The practical aspect of the physician's fee is adequately covered in the Guide. It offers a reasonable basis for the physician's fee, it points out that it must never be a contingent fee, and it further specifies that attorneys should not advise a client to withhold the physician's fee until the case is settled. The Guide further offers a combined authorization form for the physician to release the medical report and for the physician to be paid by the attorney.

Most of the actual writing of the Guide was done by 3 lawyers and 3 physicians, who should be mentioned although they would probably prefer to go without recognition. I am sure they would welcome suggestions about the work. They are Messrs. Albert E. Brault, Alvin J. Newmeyer, and Anthony J. Siciliano, for the Bar Association, and Drs. Samuel Diener, Everett J. Gordon and R. A. Osbourn for the Medical Society.

While the Guide is admittedly not perfect, and indeed may have shortcomings, it is offered as a basic instrument by which the members of these two great professions may develop greater esteem and respect for each other and thus enable them to serve better their fellow men.

RAYMOND ALLEN OSBOURN, M.D.
Chairman, Committee on Coöperation with D. C. Bar Association

"MENTAL HEALTH IN THE U. S. A.—FACTS OR FANTASIES"

Such was the title of the William C. Porter Lecture, presented at the recent convocation of the Association of Military Surgeons by Dr. Jack R. Ewalt, Commissioner of Mental Health of Massachusetts.

The lecture, sponsored by the Smith Kline and French Laboratories of Philadelphia, was named in honor of Colonel Porter, a career Army psychiatrist, who was personally known to many of the readers of these words, and who did much in training medical personnel in World War II.

In 1955 the Congress enacted the Mental Health Act, authorizing the establishment of the Joint Commission on Mental Illness and Health, a nongovernmental, multidisciplinary, nonprofit organization representing a variety of national agencies concerned with mental health. The Commission has been financed by grants from the National Institute of Mental Health and from private sources. Dr. Ewalt, as Director, has supervised the studies of a large staff made up of sociologists, economists, statisticians, psychologists and psychiatrists.

The facts of the matter are that although we have known how many patients are treated in mental hospitals and what the construction, maintenance and operation of those hospitals cost, together with something of the treatment of mental disorders, there are many basic facts that we have not known but which it is to the public interest to know. This study is especially timely just now, in view of the rising interest in the whole problem of mental illness and health.

Dr. Ewalt gave a lively description of the activities of the Commission and of its plans. Already 2 monographs have appeared, "Current Concepts of Positive Mental Health" and "Economics of Mental Illness." A third, on the urgent problem of manpower (psychiatrists, psychologists, nurses, etc.), is in preparation. Other projected monographs have to do with a sampling survey of people's mental health, the role of the schools in mental health, research resources, religion in mental health, epidemiology and etiology of mental illness, and of patient care.

The final report will be made in the coming year. Much work has gone into the comprehensive study. When the reports are in, we shall have for the first time a truly all-embracing study of the social, economic and institutional aspects of what may properly be considered the major medical problem of our times.

The Association of Military Surgeons has done well to direct attention to this study by selecting Dr. Ewalt as the Porter Lecturer.

W. O.

In and Out of Focus

BY THE OBSERVER

Assembly Scores Again The Committee on Arrangements had misgivings about the dates on which the 27th ANNUAL SCIENTIFIC ASSEMBLY was to be held because they were the three days before Thanksgiving. As it turned out, there was no need for concern because the meeting was not only well attended but was marked by the unusual interest of a large number of physicians. Emphasized again was the fact that the heart of any medical meeting is its scientific program.

Tangible evidence of the program's drawing power, of course, lies in the attendance figures. They were as follows:

Members and guest physicians	1,413
Interns	38
Nurses	78
Medical students	200
Exhibitors	298
Miscellaneous	227
TOTAL	2,254

Development of the excellent scientific program was in the capable hands of Dr. George E. Schreiner and his Program Committee. As must have been evident to those who attended the various sessions, every effort had been made by them to make the ASSEMBLY a more effective instrument in postgraduate education. The usual formal presentations and panel discussions were followed by what were called "Informal Table Workshops." The purpose of these was to permit more intimacy between the speakers and those in attendance, providing the latter an opportunity to discuss on a most informal basis practical and controversial questions and case problems. One preceptor was assigned to each table, which accommodated 10 or 11 physicians.

This experiment can be counted successful although there were some unforeseen complications, one of them being that out-of-town physicians appearing on the program attracted attendance at their tables out of proportion to the others equally well qualified. This was largely corrected after the first session.

There were other features of the ASSEMBLY such as the Scientific Exhibit and Motion Picture Program which were maintained at their usual high standard by committees headed by Drs. Howard S. Madigan and Paul R. Wilner.

Social affairs were largely in the hands of Dr. Alejandro F. Castro and his committee, made up of representatives of the Society and the Woman's Auxiliary. The principal event for which they were responsible was the Benefit Buffet Supper—net proceeds to go to the Auxiliary's Nursing Fund—which proved to be a delightful affair.

Daily luncheons were held as usual. Speakers included Mr. George Bugbee, President of the Health Information Foundation, who appeared at the opening-day luncheon to discuss "What Prepayment Medicine Means to Physicians"; Dr. Dean F. Smiley, Executive Director, Educational Council for Foreign Medical Graduates, who spoke to the George Washington University Medical Society on "The New Program for Certifying Foreign Medical Graduates";

and Captain Norman Lee Barr, Director, Astronautical Division, Bureau of Medicine and Surgery, Department of the Navy, who addressed the Georgetown University Medical Alumni Association on "Medical Aspects of Man in Space."

The overall direction of the ASSEMBLY was in the capable hands of Dr. Robert E. Moran, who was the General Chairman. He took an active and keen interest in the activities of all committees.

Awards were presented this year at the opening-day luncheon. The John Benjamin Nichols Award was presented to Mrs. Harold N. Marsh (see photo), and Dr. Donald Stubbs was the recipient of the Certificate for Meritorious Service (see photo).

NICHOLS AWARD PRESENTED TO MRS. MARSH

MRS. HAROLD N. MARSH is presented the JOHN BENJAMIN NICHOLS AWARD for laymen by DR. HERBERT P. RAMSEY, Chairman of the Executive Board of the Medical Society. Mrs. Marsh was nominated for the award by the Society's Committee on Public Information in recognition of distinguished service over 30 years to many health organizations. Mrs. Marsh said she would treasure the award "as one who has the greatest respect and admiration for the dedicated lives of doctors and nurses, and who has been associated with many of them."

DR. STUBBS CITED FOR MERITORIOUS SERVICE

DR. DONALD STUBBS (left), President of Medical Service of the District of Columbia and National Chairman of Blue Shield, accepts the Certificate for Meritorious Service from PRESIDENT JAMES W. WATTS at the Opening Day Luncheon of the Medical Society at its ANNUAL SCIENTIFIC ASSEMBLY. Dr. Stubbs was recognized for his medical ability and for his contribution to public welfare through Blue Shield. In accepting the award he stated, "It is proper that I should renew my dedication to the cause in which you have judged me to have merit. This I now do as I restate to you my conviction that the Blue Shield movement is the most important mechanism available to medicine to support jointly its ideals and its freedom."

Displays which won awards in the Scientific Exhibit were:

First prize: "A Simple Marsupialization Technic for Treatment of Pilonidal Sinuses," Daniel J. Abramson, M.D., and Captain Latimer H. Booth, Walter Reed Army Hospital; second prize: "Experience with Artificial Kidneys," George E. Schreiner, M.D., John F. Maher, M.D., and Julien Marc-Aurele, M.D., Renal Service, Georgetown University Hospital; third prize: "A New Approach to the Management of the Agitated Child," Wilfred R. Ehrmantraut, M.D., Children's Center; Jack Kleh, M.D., D. C. Village; Joseph F. Fazekas, M.D., D. C. General Hospital; and Francis M. Mastrota, M.D., Junior Village, with technical assistance of Marie Negron.

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The Sixth Annual Dinner for Doctors' Office Staffs was held on the second evening of the Assembly and as usual a capacity crowd was on hand. This has become one of the most successful social events held in connection with the Assembly. As in the past, it was sponsored by the Committee on Public Information.

Each succeeding Committee on Arrangements discovers there is room for improvement. Reevaluation of certain features is always profitable and helpful to the next Committee. One suspects there will be further changes in the next edition of the Assembly in an endeavor to make it a better meeting, which is the way it should be.

★

An Appeal for the Aged

Regular attendants at meetings of the AMA's House of Delegates have become familiar with the opening-day ceremonies. Usually the Governor of the state, if he is available, welcomes members of the House with a few felicitous words. Governor Orville L. Freeman of Minnesota accepted the invitation to speak to the House in Minneapolis with other thoughts in mind.

The Governor began his address by stating that he was soliciting the House's "help and coöperation in finding a solution to one of [the health] problems—one for which I, along with many other public officials, feel a grave responsibility."

In setting the stage for his plea, he said: "Government and the medical profession have similar though not identical interests, for they both exist because of concern for people. The medical profession is concerned primarily with individuals and their health. Government is concerned with how individuals get along in their various relationships with each other. And the trend is that both of these interests are coming closer together."

With respect to "socialized medicine" and Government responsibility for the people's health, he had this to say:

CAMERA SHOTS OF THE 27TH ANNUAL SCIENTIFIC ASSEMBLY (Page 38)

(1) Dr. Howard S. Madigan (left), Chairman of the Scientific Exhibit, and Lawrence A. Zupan, Assistant Secretary of the Medical Society and Exhibit Manager, are pleased when the final exhibit is in place.

(2) Left to right: Theodore Wiprud, Secretary of the Medical Society; Dr. Robert E. Moran, General Chairman, Committee on Arrangements; and Dr. George E. Schreiner, Chairman of the Program Committee, register pleasure at the excellent attendance at this year's meeting.

(3) Left to right: Dr. George Maksim, Chairman, Committee on Public Information and Education of the Medical Society; Dr. Richard C. Ackart, Executive Director, Virginia Medical Service Association and Director of National Blue Shield for the Fifth District; Mr. George B. McGovern, Executive Vice President and Secretary of Medical Service of the District of Columbia; and Dr. Donald Stubbs, President of Medical Service of the District of Columbia, were panelists for a program on "The Doctors' Secretary's Influence on Blue Shield" at the Sixth Annual Dinner for Doctors' Office Staffs, November 25.

(4) Mr. George Bugbee, President, Health Information Foundation, New York, addresses the Opening Day Luncheon, November 24, on "What Prepayment Medicine Means to Physicians."

(5) Dr. Dean F. Smiley, Executive Director, Educational Council for Foreign Medical Graduates, addressing the George Washington University Medical Society Luncheon, November 25. At his right is Dr. Helen Gladys Kain, President of the George Washington Society.

(6) Dr. Moran and President Watts, Chairman of the Convention and President of the Society, respectively.

(7) "Experience with Artificial Kidneys" was the title of the exhibit presented by Drs. George E. Schreiner, John F. Maher, and Julien Marc-Aurele, of the Renal Service of Georgetown University Hospital. This exhibit received second award by the judges in the Scientific Exhibit.

(8) The Technical Exhibit was always crowded with physicians interested in discussing with pharmaceutical representatives some of the newer drugs and equipment.

(9) President Watts agrees with Mrs. M. Noel Stow, President of the Woman's Auxiliary, on program plans for the Buffet Supper-Dance, Monday evening, which was sponsored by the Auxiliary for the benefit of its Nursing Scholarship Fund.

(10) Captain Norman Lee Barr, M.C., U.S.N., Director of the Astronautical Division of the Bureau of Medicine and Surgery, Department of the Navy, addressing the Georgetown University Medical Alumni Luncheon on the final day of the Assembly. His subject was "Medical Aspects of Man in Space."

(11) The Registration Section was always a busy place.

"The term 'socialized medicine' apparently means different things to different people. A simple answer as to its meaning might be the providing of medical care through some branch of Government. Yet that definition is inadequate for our purpose, because we all take it for granted that Government should provide medical care in certain cases—as, for example, in tuberculosis and mental hospitals. We in the United States have asked for and have thoroughly accepted this principle for so long that I feel sure that the most ardent opponents of socialized medicine, by whatever definition, would not ask that Government cease that function. Perhaps the term really refers only to the Government assuming further functions over and above those which it now has. Or does it more specifically refer to action in which the elements of universality and compulsion are present?

"This confusion about the meaning of the term 'socialized medicine' is most unfortunate. The term in itself often arouses violent and sometimes emotional disagreement—among some who do not agree on what they are disagreeing about. Semantics, the science of words, then becomes almost as important as substance. We can lose sight of real problems and real issues in our confusion about the meaning of words. I often wonder whether a misunderstanding about the meanings of terms does not often create as much conflict and disagreement as is created by an actual difference in opinion and judgment.

"It would be tragic to permit such misunderstandings to delay our progress toward meeting real human need. And therefore, despite the difficulties of semantics and the possible danger of being misunderstood, I want to face the issue as I see it in clear and simple terms.

"My purpose today is to review with you a serious problem, not to discuss semantics.

* * * * *

"We have gone a long way in the development of voluntary programs using the insurance principle to make it easier for people to pay for their medical care. If these programs meet the needs of the American people adequately, there will be no reason for Government to be asked to step in.

"Personally, I do not want Government to be any bigger than necessary. I do not believe in compulsion except where it is essential to achieve a socially desirable goal. But where an essential goal can be achieved in no other way, under our American democratic system, Government has in the past, and will in the future, be called upon to take care of urgent, unmet needs.

"Our goal in the field of medical care for the American people is one on which I am sure the medical profession and Government are in total agreement. We want to insure the availability to all Americans of medical care of the best quality, and in sufficient quantity to meet their needs. We must coöperate to achieve this goal. We must work it out together."

At this point the Governor emphasized that the principal reason for his talk was to urge the medical profession "to meet, more adequately and efficiently, the medical care needs of our senior citizens."

Due to the increase in the aging population, he said, ". . . fewer people in the productive—and taxpaying—years will have to provide for greater educational services for increasing numbers of children and youth, and greater social and medical services for increasing numbers of the aging population.

"I am told that progress in medical science may soon change this proportion in the direction of even greater numbers of those over 65. During the past half century, our life expectancy at birth has increased 23 years, but our life expectancy at age 65 has increased only 2½ years. These figures reflect the great decline in infant mortality and the success in combating communicable diseases. Now that constantly increasing attention is being given to research on the diseases of adult years, we can expect that more of us will live longer in the years ahead.

"Thus, we face the problem of providing medical care for increasing numbers of older people."

Voluntary health insurance programs, he states, have not yet been effective with respect to the old age group:

"It is because of this great need that legislation has been proposed in Washington, and, no doubt, will be proposed again, to expand the Federal Social Security program to include hospital and medical insurance benefits under Old Age and Survivors' Insurance. It was introduced at the last session of Congress in the Forand Bill, which, I believe, you officially and vigorously opposed.

"Now you certainly have the *right* to oppose such legislation if you believe it would be harmful to your profession. You have the *duty* to oppose it if you believe it would be harmful to the public. But if you do oppose

PAST PRESIDENTS HONORED AT MEDICAL SOCIETY LUNCHEON

At the Opening Day Luncheon of the Medical Society's 27th ANNUAL SCIENTIFIC ASSEMBLY, the Past Presidents of the Society were invited to sit at the head table and were introduced to those in attendance by DR. JAMES W. WATTS, President of the Society, who presided at the luncheon and ceremonies.

Dr. Watts (seated in the center of the row above) is shown here with the honorees. Flanking him are (left to right) Drs. William Ross Morris, Charles Stanley White, Herbert P. Ramsey, and Daniel L. Borden. Standing (left to right) are Drs. William M. Ballinger, Wallace M. Yater, William P. Herbst, Jr., A. Magruder MacDonald, Harry H. Kerr, and Ralph M. Caulk. Several Past Presidents were unable to be present.

it you also have the responsibility of helping to work out an alternative program to meet the need that we all know exists and becomes more serious every day.

"A solution is urgently needed. Our costs for medical care for the aging must compete with increasing demands for greater expenditures for education and for mental health, and for scores of other urgent demands. The burden on state government for increasing services is constantly getting heavier in every field. States are assuming a greater proportion of responsibility in nondefense spending: Where in 1940 the states provided 58 per cent and the Federal Government the other 42 per cent, the states in 1956 were providing 73 per cent. If state governments are going to meet this increased share of constantly growing responsibilities they need sound planning and wholehearted coöperation of all interested groups.

"I appeal, then, for your help in coöperating with Government to develop a more adequate program for medical care for the aging. All states face this problem, although in Minnesota the problem is more acute than it is in states that set an arbitrary limit on medical care payments. All of our people stand to benefit by a program that would relieve them of worry about insecurity and dependency in old age."

Although there were differences of opinion in regard to some portions of the Governor's address, there seemed to be a unanimity of feeling in the House that something must be done immediately about medical care of the aging. Indicative of this was the adoption by the House of the following recommendation of the Council on Medical Service:

"For persons over 65 years of age with reduced incomes and very modest resources, it is necessary immediately to develop further the voluntary health insurance or prepayment plans in a way that would be acceptable both to the recipients and the medical profession. The medical profession must continue to assert its leadership and responsibility for assuring adequate medical care for this group of our citizens.

"Therefore, the Council on Medical Service recommends to the House of Delegates the adoption of the following proposal: That the American Medical Association, the constituent and component medical societies, as well as physicians everywhere, expedite the development of an effective voluntary health insurance or prepayment program for the group over 65 with modest resources or low family income; that physicians agree to accept a level of compensation for medical services rendered to this group which will permit the development of such insurance and prepayment plans at a reduced premium rate.

"This recommendation has been studied and restudied by the Board of Trustees and has received its wholehearted endorsement."

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Concern for the Future Off and on in recent years the AMA's House of Delegates has been vigorously reminded that "medicine is at the crossroads," "socialized medicine is still a real threat and must be combated with every resource at the Association's command," and "the inroads of the Third Party is undermining the private practice of medicine."

Although these warnings still arouse strong feeling, the temper of the House is changing. This was evident at its meeting in Minneapolis last December, for there was greater emphasis on the positive rather than the negative aspects of controversial medical issues than at any other time in your Observer's recollection. What has wrought this change? The best guess is infusion of new blood not only in the House but among the Association's officers. Then, too, it is becoming increasingly apparent that some problems facing the medical profession must be solved with the least possible delay.

Immediate answers, it is apparent, must be found for such questions as: Can voluntary health insurance meet the needs and the demands of the people? Will the Blue Cross-Blue Shield and the commercial companies resolve their differences in the interest of self-preservation? Can they provide medical care for the marginal income group, including those persons over 65, at a reasonable cost? The House dealt with several important facets of these questions.

Elsewhere in this column your Observer has reported the action of the House with respect to medical care for persons over 65 years of age. Constituent and component medical societies, as well as physicians everywhere, are urged by the House to expedite the "development of an effective voluntary health insurance or prepayment program for this group where the resources are modest or the family income low."

The long awaited report of the Commission on Medical Care Plans appointed at the 1954 Clinical Meeting in Miami was the subject of rather warm discussion in a reference committee. The House finally decided to withhold action until its annual meeting in Atlantic City next June because the report had raised some serious questions as to the Association's attitude on some basic points. Here are two that were raised:

"1. *Free choice of physician.* Acknowledging the importance of free choice of physician, is this concept to be considered a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualification?

"2. *Closed panel systems.* What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician?"

Consideration was also given to a change in the Association's Constitution, the proposal being that Article II read, "The objectives of the Association are to promote the science and art of medicine and the betterment of public health *and an understanding of the socioeconomic conditions* which will facilitate the attainment of these objectives."

The House agreed with the Committee on Medical Practice that relative value schedule studies, such as are now being conducted in the District of Columbia, should be undertaken by all constituent medical associations.

Finally, to spur on more activity, the House authorized the Council on Medical Service to sponsor at the earliest practical date a congress on prepaid health insurance.

What all this adds up to is organized medicine's determination to come up with some answers to serious problems in the socioeconomic field.

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School Health Program An unusually significant meeting was held in Washington on October 14, 1958. Devoted to the school health needs, it was sponsored by the District Department of General Administration, Management Office, the Public Schools of the District of Columbia, and the District Medical Society. Its significance lay in the fact that it was the first time the public had been invited to participate in a conference devoted entirely to the consideration of the health and welfare services for children enrolled in the public schools. The meeting was initiated by Dr. Preston A. McLendon, Chairman of the Committee on Health and Special Education Services of the Board of Education, who, incidentally, will also be Chairman of the Executive Board of the District Medical Society in 1959.

In a discussion with your Observer, Dr. McLendon stated that the purpose of the meeting was not only to emphasize the necessity for improving the school health program but to point up the fact that this would require closer coöperation between the Health Department, public schools, and private physicians, upon whose active participation rests the success or failure of any health program.

Although the subjects discussed were not confined specifically to the medical care of school children, all related in one way or another to child health. Among the topics were child behavior, teacher evaluation, social and nursing services.

Participating in the program were Dr. Donald A. Dukelow, Bureau of Health Education, American Medical Association, and Dr. William Cresswell, Assistant Executive Secretary and Consultant of the AMA's Physical Education and Recreation Department. On a panel moderated by Dr. McLendon were Dr. Daniel L. Finucane, Director of Public Health for the District of Columbia; Dr. Carl F. Hansen, Superintendent of District Schools; Mr. Joseph C. Chicherio, Management Analyst, D. C. Department of General Administration; and Dr. Harold M. Hobart, Chairman of the Medical Society's Subcommittee on Child Welfare.

Dr. McLendon holds high hopes that this auspicious beginning will lead to badly needed improvement in the health and welfare program in Washington schools.

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Behind the Masthead Many hands are required to put out a monthly medical journal. Most of those responsible for the MEDICAL ANNALS are well known to readers, for their names appear on the masthead. They include the Editor, Managing Editor, Assistant Editor, Editorial Board, and Consulting Editors. In addition, there are, of course, the contributors and the advertisers, who make the publication financially possible. Behind the scenes are various members of the office staff who assist in one way or another in preparation of the journal. Then there are the printers.

One suspects there are very few who know the important role the printers have played in the development of the MEDICAL ANNALS. Ever since its inception in 1932 the Waverly Press of Baltimore has printed the Society's publication. The relationship between this firm and the Society has been on a far more personal basis than is usually the case. This has largely been due to one man, Albert Beehler, who became associated with the Press over 32 years ago.

Mr. Beehler was not only an unusual sales representative for his firm, but a friendly man who helped smooth out many difficulties incident to the publication of the journal. Your Observer and his associates not only leaned heavily upon Mr. Beehler but developed a real affection for him. They discovered early in their association that they could rely upon his word. If he made a promise, he kept it. He could also be counted on to turn up with clocklike regularity at the Society's office on Tuesdays for a word or two about the details of publication.

Because of failing eyesight Mr. Beehler recently retired. It was typical of him that he did not wish to carry on because he thought it was not fair to his firm, although he had plenty of energy, enthusiasm, and capacity to enjoy his position.

When his Washington customers learned of his contemplated retirement, they gave him a luncheon and gifts in remembrance of their association—an indication of the close relationship which existed between them. This was arranged largely through the initiative of the Assistant Editor of the ANNALS, A. Louise Eckburg.

For himself, your Observer wishes to take this opportunity to assure Mr. Beehler that the varied and valued services he rendered this publication are deeply appreciated and that the friendly relationship which has existed over the years will always be recalled with pleasure.

T. W.

PROCEEDINGS OF THE ANNUAL BUSINESS MEETING

Because of the change-over of the Society's functional year to coincide with the calendar year, the 1958 Annual Business Meeting of the Medical Society of the District of Columbia was held on Sunday afternoon, November 23, 1958, in the Society's building. President James W. Watts presided.

The Annual Report of the Executive Board had been published in advance in the October issue of the MEDICAL ANNALS, and the members approved it as published. Dr. Herbert P. Ramsey, Chairman of the Executive Board, read the Supplemental Report of the Board, which follows these Proceedings. The Society voted to approve the report as a whole.

Dr. C. Willard Camalier, Jr., was called on to present the Interim Report of his Committee, which is published in this issue of the ANNALS. A motion was made and carried that a copy of the report be mailed to the membership in a separate mailing.

Dr. Charles E. Dunham, Director of the Division of Biology and Medicine, Atomic Energy Commission, was elected to Honorary membership in the Society.

Drs. Henry D. Ecker, Frank S. Pellegrini and Leonard T. Peterson were recommended for appointment to the Board of Trustees of Medical Service of the District of Columbia for a 3-year term, beginning at the Annual Meeting of the Service in April 1959.

Dr. O. Hugh Fulcher was recommended for appointment to the Board of Trustees of Group Hospitalization, Inc., for a 5-year term, beginning at the Annual Meeting of GHI in March 1959.

A list of those who had completed a probationary year as Active members of the Society had been mailed in advance to the membership; they were elected into full membership at this meeting.

ELECTION OF OFFICERS

Dr. James A. Dusbabek, Chairman of the Nominating Committee, presented the following candidates to the Society for election:

President-elect: Dr. Victor R. Alfaro
First Vice President: Dr. Edward W. Nicklas
Second Vice President: Dr. Fofo Mezitis
Member of the Executive Board for a 4-year term: Dr. James W. Watts
Member of the Board of Credentials for a 3-year term: Dr. Paul R. Wilner
Delegate to the AMA for a 2-year term: Dr. Raymond T. Holden
Alternate Delegate to the AMA for a 2-year term: Dr. Herbert S. Gates

The President moved that the Secretary be instructed to cast a unanimous ballot for these officers and the motion was carried.

Dr. Alfaro was escorted to the platform and congratulated by the President. He will take office as President in 1960, following the term of office of Dr. W. LeRoy Dunn. Upon accepting the office of President-elect, Dr. Alfaro tendered his resignation as Junior Delegate to the AMA, effective January 1, 1959.

Dr. Nicklas, upon accepting the office of First Vice President, also tendered his resignation as Alternate Delegate to the AMA, effective on the same date.

The Nominating Committee had anticipated these resignations and submitted for the approval of the membership the appointment of Dr. Ralph M. Caulk as Junior Delegate to the AMA to complete the term of Dr. Alfaro, and the appointment of Dr. Karl C. Corley as alternate, to complete the term of Dr. Nicklas. Both nominations were approved.

Dr. Caulk, upon accepting the office of Junior Delegate, tendered his resignation from the Executive Board, effective January 1. The Nominating Committee presented Dr. Milton M. Greenberg to serve as a member of the Executive Board for the unexpired term of Dr. Caulk.

The President called upon Dr. Ramsey to read a report on the proposed Healing Arts Practice Act.

Dr. Caulk was invited to the platform and presented with a tribute of appreciation for his loyal and valued services as President of the Medical Society during 1956–57.

Dr. Ramsey, upon being recognized by the chair, gave an inscribed gavel as a memento of office to Dr. Watts, whom he described as a "Virginia gentleman" and a "man of restraint, positive opinions, good judgment, distinction, and culture." Dr. Ramsey noted that this was the last meeting in which he would serve in an official capacity. He then presented to the Society a documentary film in color, "These Things I Have Seen," which covers medical history in Washington the first half of this century.

Refreshments were served in the library following the close of the meeting.

SUPPLEMENTAL REPORT OF THE EXECUTIVE BOARD

This report, the last of the organization year, supplements the annual reports which were published in October 1958 MEDICAL ANNALS. The subjects dealt with and recommendations relating thereto are those which, because of their nature, require Society action.

Honorary Membership for Dr. Charles E. Dunham, Director, Division of Biology and Medicine, Atomic Energy Commission. At the special meeting of the Society on June 18, 1958, Dr. Dunham was proposed for Honorary membership in recognition of his distinguished career as a medical educator and scientist.

As reported at the above meeting, Dr. Dunham received his undergraduate training at Yale University and his M.D. degree at Rush Medical College in 1933. A large part of his professional life has been devoted to medical education. For many years he was associated with medical institutions affiliated with the University of Chicago. His subsequent service in the U. S. Army added considerably to his medical reputation.

Dr. Dunham was appointed Assistant Chief of the Medical Branch, Division of Biology and Medicine, in 1949, Chief of the Branch in 1950, Deputy Director in 1954, and Director in 1955.

Dr. Dunham's accomplishments, in the opinion of the Board, make him most worthy of being elected an Honorary member.

Amendments XLVII, XLVIII, XLIX, L, and LI to the Constitution and By-laws submitted for adoption. Copies of these amendments were sent to all members with the agenda (see Interim Report of the Executive Board published in August 1958, pp. 422–3). The Board has only this comment to make in regard to them. The first four were proposed to the Society at its special business meeting on June 18; Amendment LI was proposed in the Annual Report of the Executive Board (see October ANNALS, p. 550); all are now presented to you for a vote. Their purpose is to reconcile the various parts of the present Constitution and By-laws in such a way as to implement the action of the Society when it voted to adopt the reorganization plan. The Board proposes their adoption.

Recodified Constitution and By-laws. Because of the nature of the above amendments the Committee on Constitution and By-laws assumed that they would be adopted. It therefore proceeded to complete the recodification.

Although it endeavored to submit all amendments required for recodification there were minor changes necessary to reconcile some parts of the text. They will not alter the intent of the document.

One necessary change which the Board wishes to bring to your attention is the requirement that the Chairman of the Board make an annual report of the Board's activities for the preceding year and submit it to the Society for approval along with the budget for the ensuing year. In the past the Chairman has not only complied with this requirement but also has included the financial report showing the Society's assets and liabilities and income and expenditures.

Now that the Annual Business Meeting is held in November the Chairman obviously cannot submit the year's financial report as the books will not have been audited until sometime in January. Neither can he submit a budget for 1959 because that will be based on last year's experience. Therefore, henceforth the annual financial report and the budget for the ensuing year will be published in the MEDICAL ANNALS as soon as practical. The report and budget will then be considered by the Society at the next Annual Business Meeting.

No Constitution and By-laws is a perfect document and the Committee makes no claim that this one is, but as it now stands it is shorn of amendments. The Committee will make copies of the recodified Constitution and By-laws as soon as possible.

A Guide for Practice, Medicolegal Relations, for the District of Columbia. The Guide has again been revised. It will be recalled that when it was last submitted by the Board for the Society's consideration minor changes were suggested. These resulted in further changes by the Bar Association's Committee on Relations with the Medical Society. The Board now submits the final draft, which follows this report, for your approval with the recommendation that it be adopted.

Nominations to Board of Trustees of Medical Service of the District of Columbia. At its meeting on November 3, 1958 the Executive Board voted to submit to the Society for approval the following nominees to the Board of Trustees of Medical Service for a term of 3 years beginning at the annual meeting of Medical Service in April, 1959: Dr. Henry D. Ecker, to succeed himself; Dr. Frank S. Pellegrini, to succeed Dr. W. Robert Perkins, Jr.; and Dr. Leonard T. Peterson, to succeed Dr. Donald Stubbs.

As stated in the agenda, additional nominations may be made from the floor. At the proper time your President will ask if there are additional nominations. The Board is of the opinion that only 3 nominees should be submitted. However, the decision on this matter rests with you.

Appointment to Board of Trustees of Group Hospitalization, Inc. Annually the Society is requested to appoint one of its members to the Board of Trustees of Group Hospitalization, Inc. This year the Executive Board proposes the election of Dr. O. Hugh Fulcher to succeed Dr. Richard H. Todd as a member of the Board of Trustees for a term of 5 years beginning at the annual meeting of Group Hospitalization, Inc., which is to be held sometime in March, 1959.

Confirmation of applicants elected to membership by the Executive Board. Each Active and Life member received with his agenda for this meeting a list of the members elected one year or more ago by the Executive Board. As provided by the Constitution and By-laws their permanent membership must now be confirmed by the Society.

The Board recommends that the physicians listed be given permanent status.

Conclusion. Tomorrow morning the first session of the 27th ANNUAL SCIENTIFIC ASSEMBLY will get under way. The Board feels certain that the excellent scientific program and other features provided will be enthusiastically received.

Incidentally, this is the final meeting of the Society at which the Chairman of the Board acts in official capacity. I am deeply appreciative of the opportunity I have had to serve and am grateful for the friendships and the helpfulness encountered during many years of activity in the Society.

Respectfully submitted,
HERBERT P. RAMSEY, M.D., *Chairman*
RALPH M. CAULK, M.D.
W. LEROY DUNN, M.D.
RAYMOND T. HOLDEN, M.D.
PRESTON A. MCLENDON, M.D.
W. ROSS MORRIS, M.D.
JAMES W. WATTS, M.D.
THEODORE WIPRUD, *Secretary*

INTERIM REPORT OF THE COMMITTEE ON MEDICAL CARE

Your Committee on Medical Care has had an extremely busy year and foresees no change from this in the future. At this time the members of the Medical Society of the District of Columbia are face to face with the alternative of a continued free choice of physician by the patient or of a controlled and regulated practice of medicine. There is no dodging, avoiding, or ignoring this fact. Those physicians who support the *status quo* by refusing to recognize changes taking place in the country at large, and even here in this area, will be left outside while their expatients are cared for by other means.

It has become extremely clear to anyone interested in the picture of medical economics that the demand for prepayment coverage of medical care is the basis of the drive now on by the so-called consumer groups to obtain comprehensive coverage at a known cost to such groups. We have just seen in this area the transfer of 9,000 transit workers from Blue Cross-Blue Shield to Group Health Association. This latter organization represents comprehensive care, using a closed panel of physicians to furnish such care. We are aware that other local union groups representing another 340,000 persons may also seek broader benefits. Your Committee is further aware of the expressed interest of the Government employees' union groups and the intense interest which is increasing in Congress for the arrangement of a comprehensive prepayment plan not only for the indigent and aged but also for all segments of the population. One has only to be aware of the restlessness of the steel workers' union and their able President, Mr. David McDonald, who is readying a closed panel plan to cover the 1,125,000-member organization, to see the problems just ahead. When asked about freedom of choice of physician, Mr. McDonald replied, "Just a lot of conversation."[1]

The need for an answer to this problem has occupied much of the deliberations of this Committee for at least 4 years. We have been faced, particularly in the past year, with requests for fair and reasonable fees from the Medicare program, the State Department, the Veterans Administration, union groups, commercial insurance companies, and Medical Service of the District of Columbia. Various members of this Committee have repeatedly discussed, in writing and in open meeting, the necessity for arriving at some basis by which physicians' fees could be maintained at a just level while at the same time affording the organizations or plans some guide as to the cost to them of such care.

It soon became apparent that some method of negotiation or discussion of fees, other than a dollar price, must be arranged to allow flexibility in adjusting the fee of the physican to correspond to the income of the patient or to the group arranging and purchasing such care.

Ten years ago the State of Nebraska developed a relative value unit scale and this in turn has been followed by the well-publicized California schedule as well as similar ones in Iowa, Montana, and Kansas. During deliberations with the Government on the Medicare program it was found that heavy reliance was being placed on the California scale of units in an attempt to properly balance fees which were determined. In addition, Dr. C. P. Callaway, of the California Medical Association's Committee on Fees, states in a recent article that the scale "is rapidly being adopted by the Federal and state Governments, the courts, labor unions, private insurers, and the Blue Shield plans." He further states, "Whenever negotiation of fees has taken place, our representatives have enjoyed the advantage of actuarially sound statistics."[2]

On July 28, 1958 this Committee recommended to the Executive Board of the Society that a relative value unit scale such as exists in California be developed for the District. On August 13, 1958 the Board directed the Committee to develop such a schedule and establish unit values for various income levels. This step was brought about by the developing demand for prepayment plans and by the requests for the determination of fair and reasonable fees filed under Major Medical programs of both commercial and Blue Shield plans. It was further pointed out by the latter that such a schedule was necessary for Medical Service to work out a program of comprehensive coverage as desired by labor groups.

The Committee on Medical Care is now in the process of carrying out its instructions. Requests have been sent to each appropriate Section or Society within the Medical Society asking for relative unit values for their particular field. A word of

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[1] Medical Economics, November 10, 1958, page 3.

[2] Medical Economics, October 27, 1958, page 32.

EIGHTH MIDWINTER SEMINAR

February 24, 25 and 26, 1959

Medical Society Building
1718 M Street, N.W.

Hold These Dates Open—Program
Will Be Announced

explanation of the unit value schedule is in order. Such a schedule relates one item of medical care to another in the form of units. The dollar value does not enter into this at this time, but is a subject for future negotiations with whatever party is concerned. To use an example of the working of the unit schedule, an office visit of a routine nature may be valued at one unit, while a complete history and physical may be valued at five units. To translate this into a dollar fee it is only necessary to establish the value of one unit. If this is, for instance, set at five dollars, the office visit becomes five dollars and the complete history and physical becomes twenty-five dollars. Other dollar values will produce different fees, of course. This, then, is the basis of the relative value unit scale and through this mechanism flexibility is gained in dealing with any third party furnishing the desired care. It may also be applied to the private practice of any individual physician at his discretion. The value in dollars can be fluctuated with the patient's income, with the cost of living, and/or with the qualifications of the physician concerned.

It has become increasingly clear to this Committee, to the Executive Board of the Society, and to anyone who has followed the Nationwide developments in the field of medical economics that the third party in medicine is here to stay. It is also clear that if the present rate of growth is maintained we will, within a few years, see the large bulk of our population under prepayment medical care of some type. We have repeatedly been made aware of the attitude of labor in which they have as their goal comprehensive medical coverage of their members and families under a plan which best meets their needs at a calculated known cost to them, be it a union clinic, a commercial company, a Blue Cross-Blue Shield plan, or an existing closed panel group.

We cannot meet this problem by refusing to recognize it. We cannot meet this problem by saying we refuse to furnish care unless we can charge whatever we wish to charge. We cannot meet this problem until we realize the groups concerned will obtain the desired medical care through their own facilities, if need be, as witness the actions of the United Mine Workers. Organized medicine is in the position of making some arrangements of a suitable nature within its own ranks to meet this challenge or of losing increasing numbers of patients to closed groups by default.

The Medical Society of the District of Columbia brought into existence and has supported Medical Service of the District of Columbia. This organization has asked the Medical Society for help through the furnishing of a relative value scale to meet the problem as outlined above. The scale is also badly needed by various segments of this Society in dealing with other groups which come to the physicians seeking guidance.

The Committee on Medical Care of the Medical Society of the District of Columbia earnestly requests the full support of all physicians in meeting this problem so we may assure the physicians of a fair compensation for their services and the patients the best medical care available.

Respectfully submitted,
C. WILLARD CAMALIER, JR., M.D., *Chairman*

Cancer Page

In subsequent issues of the MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA this page will be devoted to selected information concerning cancer. Brief remarks about various aspects of cancer will be prepared by members of the Professional Education Committee of the American Cancer Society, District of Columbia Division, and published anonymously. Pertinent information will be presented on specific types of cancer with an evaluation of modern diagnostic aids, improved surgical procedures, and new methods of therapy. When statistics are available a comparison between various types of therapy will be made.

The city of Washington is unique in having so many excellent medical centers. As a consequence numerous medical authorities are brought here to lecture on different aspects of the etiology, diagnosis and treatment of cancer. Many of these lectures could be enjoyed by the physicians of Washington if they had advance notice of the date and location of the meeting. The Educational Committee will endeavor to prepare a list of meetings pertaining to cancer for publication on this Cancer Page.

CANCER OF THE CERVIX—EARLY DIAGNOSIS BY CYTOLOGY

SPEAKER: JOE VINCENT MEIGS, M.D.
Consulting Visiting Gynecologist, Vincent Memorial
Hospital and Massachusetts General Hospital,
Boston, Mass.

Wednesday, February 4, 1959, 8 p.m.
Auditorium of D. C. Medical Society, 1718 M Street, N.W.

Physicians are cordially invited to attend this special lecture.

On the Lighter Side

Picking up Aloysius J. Connolly, M.D., at one a.m. in the morning in order to catch the 2:10 a.m. plane to New Orleans is no one man's job. Al is an excellent physician, a good bowler, a *bon vivant* and a handsome Irishman, but he has never been known for being too early for a given appointment. Getting good friend Al out of bed, properly packed, and fully dressed and on the plane before they hauled up the wheels was a job worthy of Tom Keliher or Steve Jones or both. I was an amateur doing a job that demanded an experienced hand—but we made it!

At the airport, after alighting from the cab, I had a moment of misgiving when the cabbie tugged at Al's two-suiter and couldn't lift it from the sidewalk. However, a quick glance revealed that the driver couldn't pick up the thing because he was standing on Al's ties that were trailing from the closed case.

This obstacle overcome and Dr. Connolly and I on the plane, it wasn't too many hours before we glided to a smooth landing at the New Orleans Airport. Here the air was humid and still, and the usual hustle and bustle were gone. The neon clock faced up to 5:30 a.m. A few sleepy loungers were loafing in the main building awaiting an early take-off. Outside the main entrance the black limousines were lined up as if at a mortuary waiting for the mourners. There was no noise, no talking. The drivers spoke in subdued tones as if afraid to awaken the sleeping city.

A leisurely drive wedged between the bulging hips of two fellow travelers brought us to the hotel where Al had a reservation and I did not, because my decision to attend the Southern Medical Convention was a last minute one. However, Dr. Stephen Jones and his charmer, Ann Crowley Jones, who had arrived much earlier, had arranged for me to bunk with Dr. Thomas F. Keliher, Dr. Charles E. Jenkins, and Dr. Connolly in a four-bedroom on the fourth floor.

I suppose most men snore a bit, but this was the first time that I had heard snoring in two different keys. However, this didn't interfere with Al and me when we crawled in the sack at 6:30 a.m.

Since I was the only "left footer" in the group, I was assigned the bed in the middle of the room where the traffic was heaviest and the door the closest. The daylight hours revealed that our bathroom was also the wettest. On a rainy day the water on the floor easily floated all the ice buckets that we had placed to catch the drip.

Monday was dampish and cloudy, but the day spent at the auditorium housing the Southern Medical Convention was a day worth while. Between the lectures and the exhibits I caught a glimpse of Drs. Warren Burch, Arch Riddick, Joseph Belair, M. C. Cobey, Alan Crain, Everett Gordon, Margaret Nicholson, Marvin Gibson, George Hageage, Benjamin Miller, Andrew Tessitore and Proctor Harvey from the Washington Metropolitan Area.

New Orleans is a city with an interesting past, but it is also a city with an exciting future. Historical New Orleans lives on in the narrow streets and hidden courtyards of the Old French Town. Beyond the grilles of an earlier era are elegant courtyards which carry you back a couple hundred and more years to the times when the Spanish grandees and their followers enlivened the *Vieux Carré*.

The Spanish Cabildo is worth a day of anyone's time. Built in 1770, and rebuilt in 1795, the Cabildo was the center of the settlement. Here in this ancient but sturdy building Louisiana was formally transferred from Spain to France on November 30, 1803, and from France to the United States on December 20 of the same year. Every visitor of importance to New Orleans, from Lafayette and Audubon to Stonewall Jackson, walked its floors, climbed its stairways, or lived temporarily within its walls. Jean Lafitte was confined within its bullet-marked prison cell along with pirates of various distinctions.

From 1805 to 1853 the Cabildo was the City Hall. The Supreme Court was organized here in 1813 and remained domiciled in this building for over a hundred years. Today it is a museum of great historical value, containing the archives of the Spanish and French periods of New Orleans.

The open square before the Cabildo was the hub about which the Old French Town was laid out and the center where the affairs of the province were settled. Nearly everything of importance to the people of Louisiana either began or ended here. To this spot came the Jesuits and the Ursulines in 1727

(*Continued on page 60*)

LIBRARY

A GUIDE FOR PRACTICE, MEDICOLEGAL RELATIONS, FOR THE DISTRICT OF COLUMBIA

Preamble

In recognition of the fact that the practices of medicine and law do frequently involve problems which can best be solved by the combined efforts of physicians and attorneys harmoniously working for the best interests of the person who has sought their respective services; and in further consideration that such coöperative efforts are for the public good;

We, the members of the District of Columbia Bar Association and Medical Society of the District of Columbia, do adopt and recommend the following declaration of principles as standards of proper conduct for lawyers, physicians, and others concerned, subject always to rules of law and standards of legal and medical ethics prescribed for their individual conduct:

I. Recommendations to Physicians in Medicolegal Cases

A. Medical Reports

1. Any physician who accepts and treats a patient for an injury resulting from an accident involving possible liability should realize the possible medicolegal implications, and should be responsible for providing such patient with the necessary medical reports or evidence to assist that patient in recovering for his damages. If he does not desire to be involved in the legal phases of personal injury (or similar) cases, he should advise the patient of this, withdraw from the case immediately, and refer the patient to another physician. This may avoid later embarrassment or involuntary testimony by subpoena.

2. Medical information should be furnished an attorney only upon proper authorization from the patient and a written request from the attorney. Where the report is requested by someone other than the patient or his attorney, the doctor must insist upon proper authorization from the patient before giving the information.

3. The report should include the history, report of physical examination, laboratory and X-ray examinations, diagnosis, and prognosis if requested.

The attorney should specify in his written request any specific information or opinion desired. Medical reports should be concise but should contain sufficient information to enable the attorney to evaluate properly the extent of his client's injuries. The question of permanency and resultant disability should be as clearly defined as is possible. Such reports should be furnished promptly upon request.

B. Medical Examination for the Defendant

1. Whenever an examination of a patient is to be made on behalf of an adverse party, the patient's attorney should advise the treating physician, unless it is impractical to reach him, before such examination is made.

2. The physician's inquiries should be limited to medical aspects of the case and must not involve the question of liability. He does, however, have the right to inquire into the medical history of the patient, in so far as required to conduct a full and complete examination as it bears on the condition in issue.

3. Sufficient copies of his medical report should be forwarded so that one will be available for the plaintiff's attorney and the treating physician.

C. Medical Testimony

1. The relation between a lawyer and doctor shall be based upon courtesy, mutual understanding, and candor. Medical testimony is essential either to prove or disprove injury and its extent. The physician's written report is legally insufficient and cannot be utilized in trial without the personal appearance or deposition of the physician. It should also be understood that depositions are inadmissible when the physican is physically available and within reach of a subpoena at the time of trial.

2. It is suggested that a conference be held between the doctor and the lawyer intending to call him as a witness, at some mutually convenient time before the doctor is to testify. Generally, no doctor should be called to testify in any case without prior conference with the lawyer calling him concerning the matters about which he is to be interrogated, unless both the doctor and lawyer agree that such conference is unnecessary.

3. It is recognized that the dispatch of the business of the courts cannot depend upon the convenience of the individual doctors who are to be called to testify. In so far as possible, lawyers should make advance arrangements for the attendance of doctors as witnesses and will have due regard for the profes-

sional demands upon the doctor's time, by calling the doctor after the trial has commenced and advising him of the approximate time when he will be expected to testify. Such coöperation can avoid prolonged periods of waiting at the courtroom, which may occur when appearance is by subpoena alone.

4. The physician is legally required to furnish such testimony or evidence to the extent as determined by court, usually involving diagnosis, treatment, and prognosis. He may be subpoenaed into court without his consent to testify into such particulars of the case as the court may direct. In cases involving trial in another jurisdiction, this testimony may be taken by deposition pursuant to subpoena.

5. The physician should have a dignified demeanor in court. His testimony should be precise and he should avoid unnecessary lengthy explanations. When he must use medical terms, he should try also to use synonyms from lay parlance or should try to explain the medical terms so they may be understood by the court and the jury. However, he should not hesitate to give any explanations that he feels are necessary, and he may employ diagrams, X-rays or mannequins to clarify his testimony.

6. The physician may ask for guidance from the court if in doubt as to the method of answering any particular question.

D. Medical Fees

1. The fees should be in accordance with the prevailing practice in this community. The physician may make a reasonable charge for any time required such as: conferences with attorneys, preparation of reports, review of records in hospitals, review and report of X-rays, and preparation for testimony.

2. Under no circumstances should a physician's fees be contingent upon the success of, or the amount of, recovery.

3. When a doctor is called to testify as a witness for his patient, the charge to be made to such patient shall be established by agreement. It is recognized that testimony out of this jurisdiction may require additional time and absence of physician from his practice and would then warrant additional compensation.

4. When a doctor is called to testify as an expert witness, not as a treating physician, he shall be entitled to such fee as may be agreed upon in advance with the party or his lawyer. Nothing herein is intended to alter the rules of law with reference to attendance of witnesses and fees for their attendance, nor the law with reference to privilege.

II. Recommendations to Attorneys

A. Medical Reports

1. An authorization to release medical information to a lawyer is necessary to protect a doctor in view of the patient-physician privilege. Accordingly, in every case where a lawyer initially seeks information or medical reports from his client's treating physician, he shall send to such physician a written authorization signed by his client permitting the physician to disclose such information.

2. When a report is requested, the lawyer should make clear in his written request for a report the specific condition about which he seeks information.

3. The physician's testimony and report are vital to the successful disposition of a liability case. Full coöperation with the physician and consideration of his time and professional obligations will be mutually beneficial.

4. A physician who examines or treats a patient involved in a medicolegal dispute is entitled to have his fees paid by the patient when the bills are rendered. Attorneys should not advise their clients to withhold payments to their physicians until the case is legally terminated. If the patient's economic position so warrants, the physician may elect to wait until the case is terminated for collection of his fees.

5. Upon the termination of the case or upon the withdrawal of the patient's attorney from the case, the treating physician shall be promptly advised of such termination or the attorney's withdrawal.

B. Consideration of a Physician as a Witness

The physician is seldom an ordinary witness but is in effect an expert witness and should be treated accordingly. The lawyers should avoid undue personal criticism of the physician or his integrity. The doctor should be treated with courtesy and respect.

III. Authorization for Payment of Medical Fees

In all cases involving medicolegal problems, the attorney representing the patient should request from his client appropriate written authorization to pay out of the proceeds of any recovery realized by his client all hospital and medical bills remaining unpaid at the time of said recovery.

The treating physician should be notified by the patient's attorney at the time an initial request for medical information is made whether or not such an authorization has been obtained. If such an authorization has been obtained the treating physician should be sent a copy thereof.

IV. Physician's Testimony in Court

1. Subpoenas generally should not be issued without prior notification of the physician.
2. Wherever possible, the physician should be placed on telephone call to minimize the physician's time in court.
3. Wherever the circumstances so warrant, the patient should be reëxamined prior to testimony so that proper and final evaluation of his condition may be given in court.
4. The physician should be properly qualified as an expert. He should be asked to explain technical terms wherever possible and should be permitted to amplify his answers for clarity.

V. Authorization Form

A combined authorization form to permit the physician to release medical reports and to authorize direct payment by the attorney to the physician from the proceeds of recovery is in widespread usage. A suitable form follows.

I, ______________________________, hereby authorize my physician, ______________________________, M.D., to furnish my attorney(s), ____________________ ______________, Esq., and/or ____________________ Insurance Company, any medical reports which he or they may request in reference to the injuries sustained by me, my child, or children on ______________ 19__.

I further authorize and direct said attorney(s) or insurance company to pay from the proceeds of any recovery in my case to my physician, ______________ ______________ M.D., for his professional services, including fees for preparation and testimony, to ______________________________, as a result of the injury(ies) heretofore mentioned. I understand that this in no way relieves me of my personal primary responsibility to pay my physician for such services.

Name ______________________________
Address ______________________________
Date ______________________________
Witness: ______________________________

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, December 15, 1958, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Charles N. Bland, 1417 Park Road, N.W.
Joseph A. Bourke, Jr., 1905 Lincoln Road, N.E.
Seymour Dubroff, 1737 H Street, N.W.
Otis R. Farley, St. Elizabeths Hospital
James P. Hartley, 5805 Augusta Lane, N.W.
Kamel J. Hassan, 3500 14th Street, N.W.
Melvin J. King, 1835 Eye Street, N.W.
Jorge Labarraque, 4114 Davis Place, N.W.
Mildred G. McDonald, 1835 Eye Street, N.W.
John W. McTigue, 1746 K Street, N.W.
George W. Roark, Jr., 2025 Eye Street, N.W.
Pierre B. Scott, 1835 Eye Street, N.W.
Agatha J. Sobel, St. Elizabeths Hospital
Howard E. Ticktin, 10307 Leslie Street, Silver Spring, Md.
Thomas Mahlon Wright, 309 Rose Lane, Falls Church, Va.
Edward W. Youngblood, Washington Clinic

Associate Members

Vernon H. Coughlan, 9509 Milstead Drive, Bethesda, Md.
Joseph O. Dean, 9214 Cypress Avenue, Bethesda, Md.
G. Lennard Gold, 4108 Dana Court, Kensington, Md.
John Hernandez, 1506 17th Street, N.W.
Nevill McCaa Joyner, 4107 W Street, N.W.
Hilary E. C. Millar, 1515 Ogden Street, N.W.
James M. Moss, 3805 Florence Drive, Alexandria, Va.
Donald Nelson, 10620 Georgia Avenue, Silver Spring, Md.
John Atkinson Owen, Jr., 2650 Wisconsin Avenue, N.W.
David E. Price, 5215 Elsmere Avenue, Bethesda, Md.

Affiliate Member

Walter F. Cresswell, Jr., 2029 Que Street, N.W.

Resident-Intern Member

John H. Renner, 4900 16th Street, North Arlington, Va.

Three New Life Members

Chapter II, Article III, of the Constitution of the Society, reads as follows:

> Life members shall be active members who have been active members for a total of forty years. They shall have all of the privileges of active membership, and shall be exempt from paying dues and assessments.

(*Continued on page 60*)

News and Personals

MEETINGS

The American Medical Association announces another series of regional **medical-legal conferences** to be held during the spring months as part of a continuing effort to create a better working relationship between lawyers and doctors. The one scheduled for Washington, D. C. will be held in the Medical Society's building, March 20 and 21. Others will be held in Cleveland and Salt Lake City during April.

At the Washington session, doctors and lawyers are expected to attend from Maryland, Delaware, Pennsylvania, New Jersey, New York, Connecticut, Massachusetts, Virginia, West Virginia, and North Carolina, in addition to the District of Columbia.

The program for each meeting is not complete, but it has already been decided that the following subjects will be covered: narcotic addiction, traumatic neurosis, *res ipsa loquitur* and medical professional liability, contingent fees, and impartial medical testimony.

The sessions will be presented for a half day on Friday and a full day on Saturday, with a luncheon to be served on Saturday.

A registration fee of $5.00 will cover the cost of the luncheon and a copy of the proceedings. Advance registration should be mailed to the Law Division of the AMA, 535 North Dearborn Street, Chicago 10, Illinois.

The Section on Ophthalmology of the Medical Society of the District of Columbia will meet for cocktails and dinner on February 10 at the Kennedy-Warren. The guest speaker will be Dr. Joseph A. C. Wadsworth, who is on the staff of the Presbyterian Hospital in New York; his subject will be "Vitreous Syndromes."

The next dinner meeting of the **Hippocrates Galen Society** will be held at the Kennedy-Warren, February 5, beginning with cocktails at 6:30 p.m. The program will be presented by inactive members of the Society.

The Tenth Annual Meeting of the Guild of Catholic Psychiatrists will be held at the Catholic University of America, February 2, 3, and 4. The theme for this year's meeting is "The Catholic Psychiatrist and His Church."

Prominent medical speakers from out of town will include Dr. Francis J. Gerty, of Chicago, President of the American Psychiatric Association; Dr. Francis J. Braceland, Psychiatrist-in-chief of the Institute of Living, Hartford, Conn.; and Dr. Gregory Zilboorg, of New York, internationally known psychiatrist.

Dr. John R. Cavanagh and Dr. Robert P. Odenwald, Co-chairmen of the meeting, will serve as moderators for two of the seminars: "Psychiatric Training for Religious," Dr. Cavanagh, and "Health and Sanctity," Dr. Odenwald. Dr. Winfred Overholser, Superintendant of St. Elizabeths Hospital, and Dr. James P. Scanlon are among those listed as participants in the seminars.

For nonmembers of the Guild, the registration fee is $5.00.

GENERAL NEWS

Medical staff elections at the **Washington Hospital Center** have resulted in seven changes in department heads for 1959. They are:

General Surgery: Dr. Ernest A. Gould
Gynecology: Dr. Herbert P. Ramsey
Neurosurgery: Dr. Jonathan M. Williams

Obstetrics: Dr. Samuel M. Dodek
Ophthalmology: Dr. James S. Dryden
Plastic Surgery: Dr. William C. Meloy
Radiology: Dr. James E. Wissler

Competitive examinations for appointment to the **Commissioned Corps of the United States Public Health Service** will be held throughout the Nation in March and April.

Regular Corps examinations for physicians, dentists, sanitary engineers, clinical psychologists, and biochemists will be held April 21–24. Applications for these examinations must be filed with the Surgeon General no later than March 6.

Application forms and further information may be obtained by writing to the Surgeon General, U. S. Public Health Service (P), Washington 25, D. C.

Dr. Austin Smith resigned as **Editor of the Journal of the American Medical Association,** effective December 15.

Dr. F. J. L. Blasingame, Executive Vice President of the AMA, announced that Dr. J. F. Hammond, Associate Editor of *The Journal*, would take over Dr. Smith's duties.

Dr. Smith succeeded Dr. Morris Fishbein as Editor of *The Journal* in 1939. Dr. Smith has also directed the policies of the Association's nine monthly specialty journals. A Canadian, he received his medical degree from Queen's University Faculty of Medicine in 1938. He joined the AMA in 1940 as a medical consultant. In 1942 he was made Acting Secretary of what is now known as the Council on Drugs, and in September of that year became Secretary. In 1946 he was also named Director of the Division of Therapy and Research. In May 1949 he was made Assistant Editor of *The Journal* and his appointment as Editor came on December 1, 1949.

A bronze plaque commemorating the late Colonel James C. Kimbrough was unveiled, November 20, in the lobby of the Walter Reed Army Institute of Research. Known as the father of modern Army urology, Colonel Kimbrough had served with the Army Medical Corps since the first World War. He was singularly honored by the Congress of the United States in 1953, when a bill was passed authorizing the President to appoint him as a lifetime consultant in urology to Walter Reed Army Medical Center. He died in 1956 at the age of 67.

Georgetown University Medical Center has announced receipt of a grant of $105,000 from the John A. Hartford Foundation of New York City, covering a 3-year period, to be used for research at the Center.

The money will be divided between the Departments of Medicine and Surgery. It is the second 3-year, $105,000 grant made to the University by the Foundation. Half of the grant is to be used in the Renal Service for the development of artificial kidney technics and for the employment of the artificial kidney as a regional community service. Dr. George E. Schreiner will direct this work.

The balance of the grant will be administered by Dr. Robert J. Coffey, Chief of Surgery, and will involve studies of abnormal fat metabolism and the study of a variety of enzymes that may have diagnostic value in pancreatic and allied diseases.

The Hartford Foundation was founded by Mr. John A. Hartford, who for many years prior to his death in 1951 was President of the Great Atlantic and Pacific Tea Company.

A new research center for the study of drugs and their use in treatment of mental illness was officially opened, November 20, at **St. Elizabeths Hospital.** The Center is to be operated jointly by St. Elizabeths and the National Institute of Mental Health.

To be known as the Clinical Neuropharmacology Research Center, the project is being set up in the William A. White Building, which has been adapted to accommodate the needed research facilities. The Center is being equipped for a comprehensive, scientific assessment of the tranquilizing and energizing drugs and their effects on mental function, particularly in the treatment of mental disorder.

Dr. Joel J. Elkes, pharmacologist at the National Institute of Mental Health, is Director of the Center. He was formerly Chairman of the Department of Experimental Psychiatry at the University of Birmingham in England.

Children's Hospital launched a campaign in November to raise $460,000 to complete its new **Research Center** and to finance other improvements to the Hospital. Total cost of the research and improvement program will be $1,117,357. Grants totaling $457,357 and a $200,000 pledge from the Variety Club of Washington had been received before the campaign opened. Mr. James H. Lemon will be General Chairman of the drive.

The Research Center is now under construction at 12th and W Streets, N.W., and will cost about $800,000. The three-story structure will provide facilities for research in allergy, antibiotics, adolescent medicine, cystic fibrosis, hematology, psychiatry, renal diseases, and viral diseases. Movable partitions will allow rearrangement of research areas without extensive repairs.

The new **Experimental Animal House at Georgetown University Medical Center** was opened for occupancy on November 18. Built at a cost of $190,000, it is a joint project of the University, the National Institutes of Health, and WARDS (Welfare of Animals used for Research in Drugs and Surgery). The Center provides spacious accommodations for animals. It has a modern diet kitchen and an outside runway for exercise. It is expected that the new installation will permit the Medical Center to start using animals from the District Dog Pound.

The Washington Chapter of the Jefferson Medical College Alumni Association has elected the following new officers:

Dr. Everett J. Gordon, *President*; Dr. Stacy Rollins, *Vice President*; Dr. William Stecher, *Secretary*; and Dr. Simon Weiner, *Treasurer*.

The Chapter announces the formation of a new committee to aid in screening applicants and endorsing suitable candidates for Jefferson Medical College. This committee will be headed by Dr. Adolph Friedman, to whom all communications regarding prospective students should be addressed.

The Northern Virginia Academy of Surgery elected new officers at its meeting, October 7, at the Belle Haven Country Club. They are:

Dr. Michael Puzak, *President*; Dr. Allen Ferry, *Vice President*; Dr. Charles Amole, *Secretary*; and Dr. Garrett Swain, *Treasurer*.

Dr. Ferry is an Affiliate member of the D. C. Medical Society.

The Fairfax County (Va.) Medical Society has elected new officers for 1959. They are:

Dr. Carl P. Parker, Jr., *President-elect*; Dr. Peter Soyster, *Vice President*; Dr. John E. Prominski, *Secretary*; and Dr. M. Frances Ayres, *Treasurer*.

Dr. Thomas O'Brien was installed President for 1959 at a meeting of the Society, January 13.

Drs. Soyster and Ayres are Associate members of the D. C. Medical Society.

The Prince Georges County (Md.) Medical Society has elected the following officers for 1959:

Dr. David S. Clayman, *President*; Dr. John S. Haught, *Vice President*; Dr. R. D. Bauer, *Secretary*; and Dr. Albert Roth, *Treasurer*.

All officers except Dr. Bauer are Associate members of the District Medical Society.

PERSONALS

Dr. Harry Lee Claud was elected Chairman of the Council of the Southern Medical Association at its 52nd Annual Meeting in New Orleans, November 3–6.

The new President of SMA is Dr. Milford O. Rouse, of Dallas, Texas.

Dr. Francis M. Forster, Professor and Chairman of the Department of Neurology, Wisconsin University School of Medicine, was one of a study team of six American scientists who left the United States on November 18 for the Soviet Union to remain approximately 30 days. The mission, the first of its kind in the field of neurology, was sponsored by the National Institute of Neurological Diseases and Blindness of the Public Health Service. It was made possible by an agreement made early in 1958 between the United States and the Union of Soviet Socialist Republics to exchange missions in various fields. A group of Soviet specialists will make a similar study in neurology in the United States at a later date.

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
October 14	Dr. Marvin E. Perkins	The Present Organization and Function of the Bureau of Mental Health	Washington Chapter, National Association of Social Workers
October 16	Dr. Marvin E. Perkins	Problems in the Home Care of Psychiatric Patients	Annual Convention, Maryland State Nurses' Association
November 19	Dr. Julius Schreiber	Doing Our Job as Parents	Beverly Hills (Arlington, Va.) Parents' Association
November 24	Dr. Irving L. Berman	Teen-age Problems	Sisterhood of Shomrai Emunah
November 24	Dr. Robert P. Odenwald	The Religious Development of the Child	George Washington University students
November 25	Dr. Robert P. Odenwald	Problems of Teen-agers	The City of Hope, Silver Spring, Md.
December 2	Dr. James F. O'Rourke	Recent Advances in Eye Surgery	Annual Meeting, D. C. Prevention of Blindness Society
December 10	Dr. Frances E. Brennecke	Crippled Children's Unit, D. C. General Hospital	Our Town—Art Lamb Show, WRC-TV
December 31	Dr. Jean H. Menetrez	D. C. Alcoholic Rehabilitation Program	Our Town—Art Lamb Show, WRC-TV

Dr. Thelma Dunn was one of eleven women honored at a luncheon at The Woodner, November 16, by the American Medical Women's Association. Dr. Dunn, who is the wife of Dr. W. LeRoy Dunn, President of the Medical Society, was cited as one of the "Women of the Year." She is Chief of the Cancer Induction and Pathogenesis Section of the Laboratory of Pathology of the National Cancer Institute. She was among the six American women physicians who toured Russia last spring under the auspices of the State Department. The luncheon wound up the midyear meeting of the AMWA.

Dr. Laurence H. Kyle was in Kansas City, Kansas, November 14 and 15, serving as Visiting Professor of Medicine at the Kansas University Medical Center. He is Professor of Medicine at Georgetown University School of Medicine.

Dr. Stanley I. Wolf will serve as medical consultant to the Jewish Foundation for Retarded Children, which has recently been incorporated in the District of Columbia. The Foundation has plans for the development of a home for retarded children to be operated on a nonprofit, non-sectarian basis. Its offices are at 2026 Eye Street, N.W.

Dr. Robert P. Odenwald has been elected Chairman of the Washington Chapter of the Academy of Religion and Mental Health.

Dr. C. Albert Hudson is the new head of the Medical Staff of the Alexandria (Va.) Hospital. He is an Associate member of the District Medical Society.

Dr. Duane C. Richtmeyer has been appointed to the District Committee on Employment of the Physically Handicapped.

Dr. Richard E. Palmer, Associate member of the District Medical Society, has been reëlected President of the Alexandria Unit of the Virginia Division, American Cancer Society.

Dr. William J. Kennard has resigned as Acting Director of the Washington Office of the American Medical Association, a position he has held since April, 1958. He joined the Association in 1955. AMA Headquarters announces that Mr. Paul R. M. Donelan, of the Washington Office staff, will act as manager of the office temporarily.

Dr. Carmon R. Naples has been elected Grand Commander of Alcantara Caravan, Order of the Alhambra. This is an international organization associated with the Knights of Columbus.

Dr. Luther W. Gray is serving this year as President of the Congressional Country Club.

Dr. Chester R. Smith, Washington dentist for 42 years, and an Associate member of the D. C. Medical Society for many years, retired in December and is moving to Florida. Dr. Smith conducted his dental practice in the Washington Medical Building for the last 26 years. He is a graduate of Georgetown University School of Dentistry.

JOSEPH LEROY GILBERT, M.D.
(1890–1958)

Dr. Joseph L. Gilbert, Chief of the East Side Service of St. Elizabeths Hospital, died suddenly, November 13, 1958, at his desk in the Hospital. Dr. Gilbert was well known to the Washington profession through his many years' service at the District General and St. Elizabeths Hospitals.

Dr. Gilbert was born, August 9, 1890, in Bellefourche, South Dakota, to J. A. and Catherine Gilbert. After receiving his medical degree from Creighton University School of Medicine in Omaha in 1919, he practiced medicine in Panama, Iowa, for several years.

He was appointed resident physician at St. Francis Hospital in Wichita, Kansas, in 1922 and served on the staff for a year. He joined the staff of St. Elizabeths Hospital in 1923.

In 1931 he was transferred to the District of Columbia Government, becoming Chief Psychiatrist of Gallinger (now D. C. General) Hospital and District Alienist. He functioned in this capacity, conducting a very active admission service and appearing often in court cases, until 1953, when he returned to the staff of St. Elizabeths Hospital as Chief of Service.

From 1928 to 1933 he served on the staff of Georgetown University School of Medicine as Instructor in Clinical Psychiatry.

Dr. Gilbert had been an Active member of the Medical Society of the District of Columbia since 1932. He was a Fellow of the American College of Physicians and a diplomate of the American Board of Psychiatry and Neurology. He was also a member of the American Medical Association, the American Psychiatric Association, the Medical Society of St. Elizabeths Hospital, the Washington Psychiatric Society, the George M. Kober Medical Society, and the Clinical Club of Washington. He took an active part in the affairs of the Washington School of Psychiatry.

Dr. Winfred Overholser, Superintendant of St. Elizabeths Hospital, who contributed the basic facts for this obituary, praised him warmly: "Although never in robust health, Dr. Gilbert was never one to spare himself in his professional duties, often pushing himself, regardless of his personal comfort, far beyond the call of duty. A sincere friend, a devoted physician of high professional ability and standards, he will be greatly missed by his friends and his patients."

Dr. Gilbert is survived by his wife, Mrs. Emma Harris Gilbert, of the home address, 1437 Rhode Island Avenue, N.W., and a brother, John H. Gilbert, living in California.

BASIL BLUMENTHAL, B.A., M.D., F.A.C.P.
(1909–1958)

Dr. Basil Blumenthal, who specialized in the practice of internal medicine in Washington since the War, died suddenly, December 6, 1958, at Georgetown University Hospital.

Dr. Blumenthal was born to Henry and Lena Blumenthal, November 23, 1909, in New York City, where his father was a pharmacist. After attending the public schools in Brooklyn, he enrolled at Columbia University, receiving his B.A. degree in 1930 and his medical degree from the College of Physicians and Surgeons in 1934. He interned at the Michael Reese Hospital in Chicago, from 1934 to 1937, following which he served a year's fellowship in cardiology at Mt. Sinai Hospital in New York.

He was cardiologist at Veterans Administration (Mt. Alto) Hospital in Washington from 1938 to 1941, when he entered military service in the United States Army. During World War II he served several years in Panama, and as assistant chief in internal medicine at Fort Monmouth in New Jersey. He was separated in 1946 with the rank of Lieutenant Colonel.

Dr. Blumenthal became associated with Georgetown University School of Medicine in 1947 as Clinical Associate Professor of Medicine. In 1957 he was appointed Director of the Outpatient Department at Georgetown Hospital. He had published many papers in the field of cardiology.

He became an Active member of the D. C. Medical Society in 1946. He was a diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the American Medical Association, the American Heart Association, and the Washington Heart Association.

Surviving him are his wife, Mrs. Maralyn Finklehoffe Blumenthal, and a son, Kenneth, residing at their home at 4555 Linnean Avenue, N.W.

Diagnostic Enzymology—Houck

(*Continued from page 8*)

37. Fleisher, J. H., and Pope, E. J.: Arch. Indust. Hyg., 1954, **9**, 323.
38. McArdle, B.: Quart. J. Med., 1940, **9**, 107.
39. Braunstein, A. E., and Kritzmann, M. G.: Enzymologia, 1937, **2**, 129.
40. Cohen, P. P., and Hekhuis, G. L.: J. Biol. Chem., 1941, **140**, 711.
41. Karmen, A.: J. Clin. Invest., 1955, **34**, 131.
42. LaDue, J. S., Wroblewski, F., and Karmen, A.: Science, 1954, **120**, 497.
43. Chinski, M., Shmagranoff, G. L., and Sherry, S.: J. Lab. & Clin. Med., 1956, **47**, 108.
44. Wroblewski, F., and LaDue, J. S.: Proc. Soc. Exper. Biol. & Med., 1956, **91**, 569.
45. DeRitis, F., Coltorti, M., and Giusti, G.: Clin. chim. acta, Amst., 1957, **2**, 70.
46. Reitman, S., and Frankel, S.: Am. J. Clin. Path., 1957, **28**, 1.
47. Hill, B. R., and Levi, C.: Cancer Res., 1954, **14**, 513.
48. Wroblewski, F., and LaDue, J. S.: Proc. Soc. Exper. Biol. & Med., 1955, **90**, 210.
49. White, L. P.: New England J. Med., 1956, **255**, 984.
50. Jakoby, R. K., and Jakoby, W. B.: J. Neurosurg., 1958, **15**, 45.
51. King, E. J.: Clin. Chem., 1957, **3**, part 2, 507.
52. Bodansky, O.: Cancer, 1954, **7**, 1200.
53. Bodansky, O.: Ibid., 1955, **8**, 1087.
54. Sibley, J. A., and Lehninger, A. L.: J. Biol. Chem., 1949, **177**, 859.
55. Baker, R., and Govan, D.: Cancer Res., 1953, **13**, 141.
56. Schapira, G., Dreyfus, J. C., and Schapira, F.: Semaine hôp. Paris, 1953, **29**, 1917.
57. Volk, B. W., Losner, S., Oronson, S. M., and Lew, H.: Am. J. M. Sc., 1956, **232**, 38.
58. King, E. J., and Delory, G.: Biochem. J., 1939, **38**, 1185.
59. Bessey, O. A., Lowry, O. H., and Brock, M. J.: J. Biol. Chem., 1946, **164**, 321.
60. Roberts, W. M.: Brit. M. J., 1933, **1**, 734.
61. Armstrong, A. R., and King, E. J.: Canad. M. A. J., 1934, **31**, 14.
62. Gutman, A. B., and Gutman, E. B.: J. Clin. Invest., 1938, **17**, 473.

Hand Lesions in Rheumatoid Arthritis—Adams

(*Continued from page 15*)

SUMMARY

Reconstruction surgery of crippled hands in patients with chronic rheumatoid arthritis may be feasible in carefully selected patients. Careful assessment of functional loss and functional need is *sine qua non* in all hand reconstruction. The surgery should be carried out only in chronic stages of the disease. By careful selection of patients many relatively useless hands may be restored to some important degree of function. Deformities amenable to surgical correction have been discussed.

Cleidocranial Dysostosis—Steinberg et al

(*Continued from page 21*)

BIBLIOGRAPHY

1. Jackson, W. P. U.: Osteo-dental dysplasia (cleidocranial dysostosis). The "Arnold head." Acta med. Scandinav., 1951, **139**, 292.
2. Martin, R.: J. de med. clin. pharm., 1765, **23**, 456.
3. Marie, P., and Sainton, P.: Observation d'hydrocéphalie (père et fils) par vice de développement du crâne et du cerveau. Rev. neurol., 1897, **5**, 394.
4. Winkler, H.: Peculiar case of cleidocranial dysostosis in child of seven years. Jahrb. f. Kinderh., 1937, **149**, 238.
5. Davis, P. L.: Deafness and cleidocranial dysostosis. A.M.A. Arch. Otolaryng., 1954, **59**, 602.
6. Anspach, W. E., and Huepel, R. C.: Familial cleido-

cranial dysostosis (cleidal dysostosis); preosseous and dentinal dystrophy. Am. J. Dis. Child., 1939, **58,** 786.

7. Repass, F. G.: Cleidocranial dysostosis—report of case. Virginia M. Monthly, 1945, **72,** 121.
8. Schiller, F.: Cleidocranial dysostosis. Ztschr. f. Stomatol., 1938, **36,** 1212.
9. Gray, H.: Anatomy of the Human Body, 26th ed. Philadelphia: Lea, 1954, p. 238.

On the Lighter Side—Kadan

(*Continued from page 50*)

and the "Cassette Girls" in 1728. The French garrison from Fort Duquesne was encamped here in 1757, and the Nova Scotian exiles of Longfellow's Evangeline were here in 1764. Stonewall Jackson was warmly received by its citizens after the battle of Chalmette, and Lafayette was honored by them when an arch was erected in his name.

Restaurants can be found everywhere one travels, but in New Orleans the restaurants attain the ultimate in cuisine. In the Old French Town they are no longer "eating places" but rather altars to the gourmet. Antoine's, Arnaud's, Broussard's, The Court of the Two Sister's, Brennan's and Kolb's cater to the appetite, like a lovesick swain to his lady fair, with Creole gumbo, fresh pompano *amandine* or *en Papillote*, shrimp creole with wild rice, *le coq d'or*, chicken *Chateaubriand*, *jambon de Lyons*, *saurbraten mit Kartoffel Kloesse* or *mit Kartoffel-Pfannkucken und Apfelmus*, et cetera, et cetera ad infinitum until the unyielding stomach can take no more. What food! What a city!

The night life is generous and noisy. There are 23 places of entertainment along 4 blocks of Bourbon Street where girls are wiggling behind every swinging door and the music is strictly Dixieland jazz. The "Cat Girl" and the tassel-tosser packed the 500 Club to the rafters every performance. Here in these baudy *bistros* the stripper has become a graduate student of her art, and the drinks have gone back to kindergarten.

There are less shocking places of entertainment on other streets of the Old French Town—robust bars and music halls that specialize in singers and pianists. Such are Pat O'Brien's with the 2 pianos, Mercedes, and the Hurricane Punch; Dan's Pier with Al Hirt and his trumpet; the Famous Door with its 2 Dixieland bands; the Old Absinthe House with its quiet piano and subdued songs; and the many small bars with the ever-present Negro pianist singing songs of the Old South and New Orleans.

There is plenty of fun-making in the Old French Town when the sun goes down, and it goes on and on until the small hours of the morning make Canal Street as deserted as F Street on Christmas morning.

New Orleans has a great deal to offer and there is much to see, and with it all there is a nostalgic charm which is not found elsewhere in these United States. You ought to go sometime!

J. Earl Kadan, M.D.

Membership

(*Continued from page 53*)

Our honor roll now numbers 60. The congratulations of the Society are extended to:

Seniority Number		*Date of Membership*
719	Jerome F. Crowley	May 24, 1919
722	Roy Lyman Sexton	June 14, 1919
724	Harry S. Bernton	August 4, 1919

who have for forty years been on the roster, meeting all dues and assessments and lending their support to the Society by frequent attendance. Their status is now elevated to Life membership.

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SEARLE

Book Reviews

Basic Cardiology. T. E. Gumpert, M.B., Ch.B. (Sheff.), F.R.C.P. (Lond.). Price, $6.00. Pp. 168. Bristol, England: John Wright and Sons, Ltd., 1958. Baltimore: Williams & Wilkins, exclusive U. S. agents.

This slender volume comes from England "to bridge the gap" between detail or dullness of standard and specialist texts. This is the author's stated aim in bringing together the best of his efforts as lecturer at the University of Sheffield School of Medicine.

Most sections are arranged along conventional lines according to their etiology. In remaining chapters, he appraises the mechanics of heart failure; the effect of "extraneous" conditions of pregnancy, anemia and trauma on the heart; the problem of anterior chest pain with an eye to thoracic structures and their reflex neural pathways. He has a go at the problem of the systolic murmur.

Three minor defects are noted. First, the scant 157 pages preclude any real comprehensiveness. The text is, therefore, brief—often too brief or perfunctory. When he lingers he is his own man and at his best.

Second, the statistical tables, though few, seem unnecessary and out of context. For example, in his chapter on chest pain there appears a table of 218 cases, of which 9 are listed opposite a heading of "Hypertension and Chronic Nephritis." The mechanism of chest pain in these cases is not clear nor is it mentioned in the text.

Finally, there is no biobliography.

On the positive side, the book is up to date, adequately illustrated, and bears the marks of special competence and wide experience.

From the standpoint of the student in his clinical years this book as a whole can be recommended. It is not a book of particular distinction. But for those in the adolescence of their professional life, it offers a unity of outlook and some good, fatherly guidance.

Louis A. Craig, Jr., M.D.

The Psychology of Medical Practice. Marc H. Hollender, M.D. Price, $6.50. Pp. 276. Philadelphia: Saunders, 1958.

This book by Dr. Hollender will be a welcome addition to any physician's library. It focuses attention on the art of medicine, with special consideration of the psychologic and psychiatric problems that arise in the daily practice of medicine. It is especially timely, since currently the great emphasis on investigative medicine and organic pathology often leaves the physician insufficiently aware of psychologic problems, which, when not recognized, can markedly influence his ability to render thorough and competent care to his patients.

The importance of recognizing psychologic necessities in the patient, and in the physician himself, is detailed in the opening 2 chapters which concern the doctor-patient relationship. These chapters are well done and outline practical aspects of the physician-patient relationship which have to be considered in the approach to total care of an individual patient.

Subsequent chapters are devoted to the psychologic aspects of care in medical patients with special reference to those with coronary disease, diabetes mellitus, cerebral vascular accident, and carcinoma. Consideration of the problems involved in surgical, obstetrical, and pediatric patients are also discussed in separate chapters. The discussions are excellent but seem to place emphasis on psychiatric situations which will require the aid of a psychiatrist. Problems that can be handled by the psychologically oriented physician might have been discussed more fully in these sections.

The last 2 chapters discuss the psychologic considerations involved in the use of medications and non-medicinal prescriptions (physician's advice and recommendations). This section is very informative and covers such things as the use of placebos, subjective response to medications, failure of patients to take prescribed drugs, use of tranquillizers, and other factors which may be overlooked by the physician as he prescribes for, advises, and follows the progress of his patients.

The book is recommended for all physicians and it is suggested that periodic re-reading would be an excellent way to make it most useful. Most of the points discussed cover knowledge that is essential for a "common sense" approach to patient care. Indeed, physicians sufficiently aware of this aspect of medical practice will undoubtedly be able to improve their patient care and avoid errors in this regard.

Richard J. Meyer, M.D.

Ciba Foundation Symposium on the Cerebrospinal Fluid: Production, Circulation and Absorption. G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., Editors for the Ciba Foundation. Price, $9.00. Pp. 335, with 141 illustrations. Boston: Little, 1958.

This Symposium was held at the Ciba Foundation in London in 1957 against a somewhat dramatically tragic background. Professor G. D. Wislocki, who had suggested

(*Continued on page 48*)

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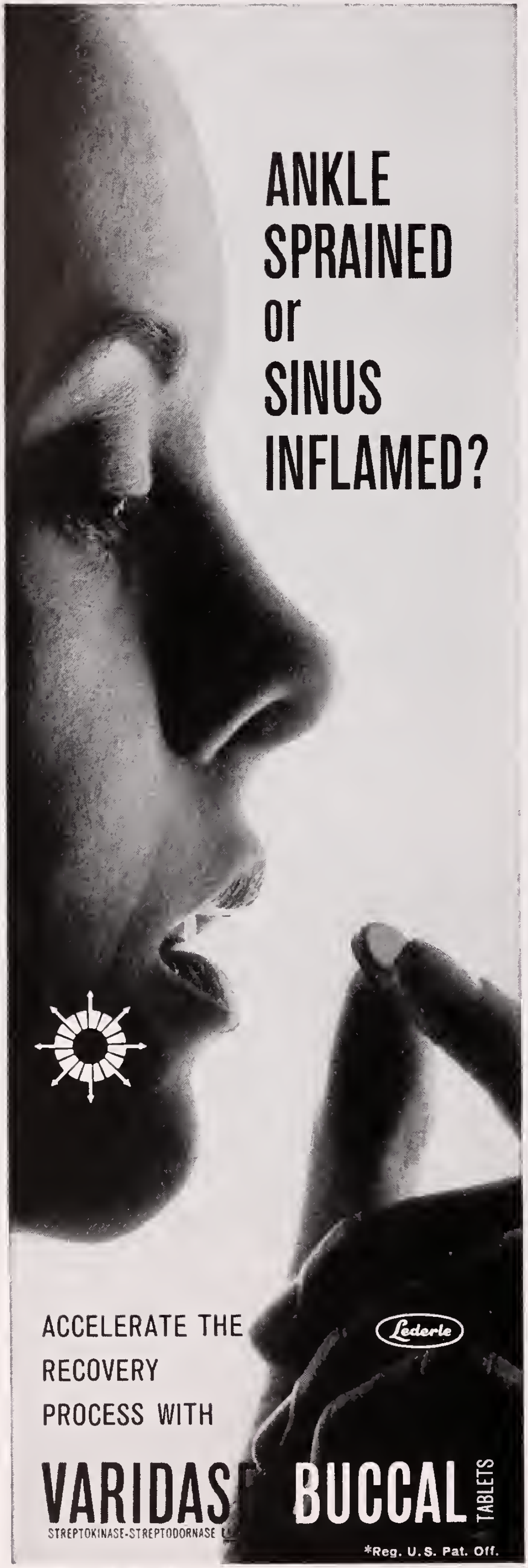
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Book Reviews

(*Continued from page 44*)

it, died during its preparation and then Professor Settlage, from whom important contributions were expected, was accidentally drowned a month beforehand.

The contributors are predominantly British, with some authorities from Sweden, Germany, and the United States, the latter country being represented by Professor Selverstone from Tufts and the paper by Wislocki of Harvard presented by the junior colleague, Aaron J. Ladman.

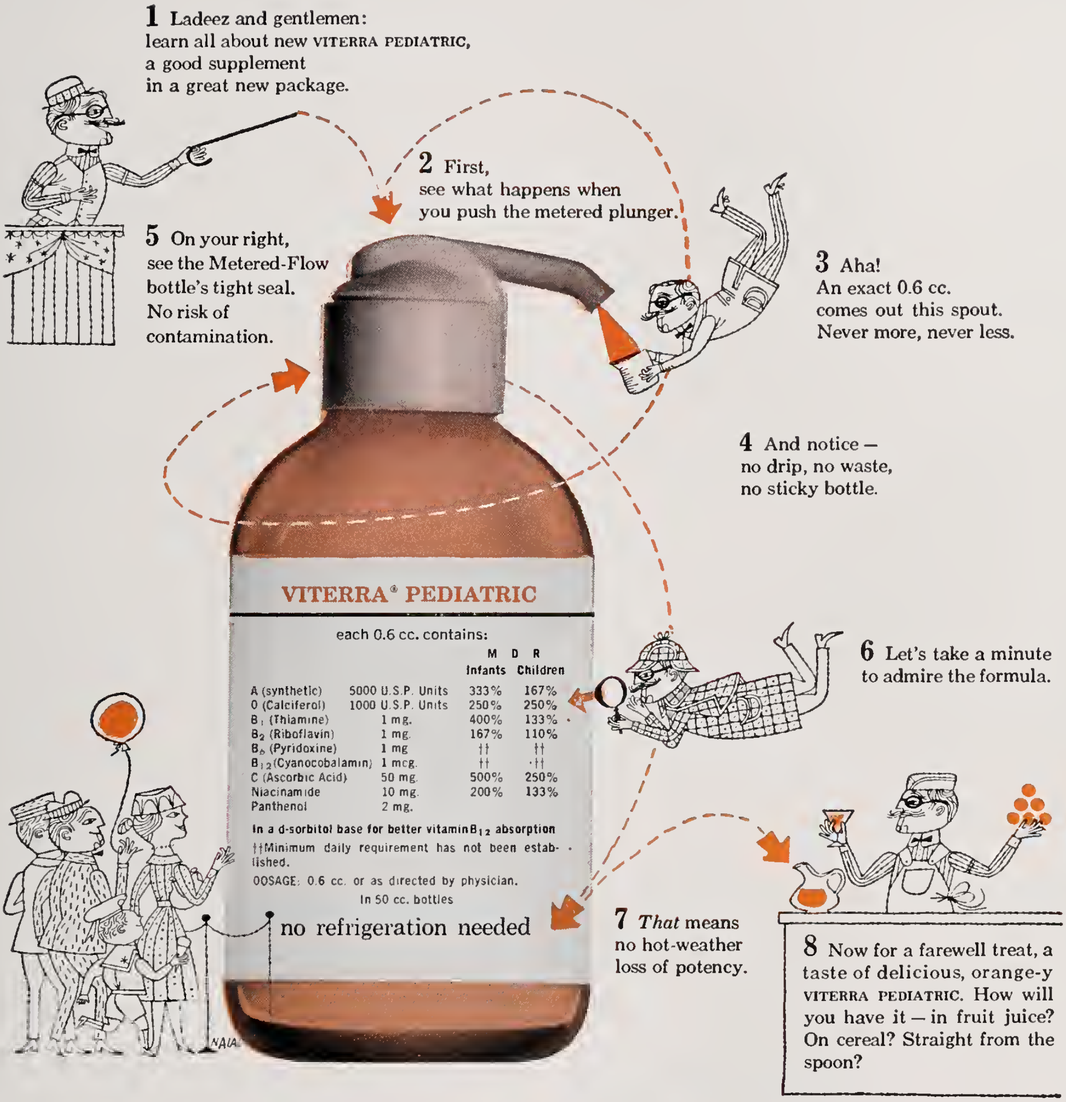
It is regrettable that the format of the Symposium should preclude a presentation of the fascinating history through which our knowledge of this important physiologic element has developed. At one time, for instance, it was felt that the brain was formed as a condensation of the cerebrospinal fluid! Nor is any such exposition complete without acknowledgment of the monumental explorations and works of such investigators as Weed, Cushing, Dandy and Blackfan. These and other pioneers, early and recent, are, of course, frequently referred to, criticized, attacked and defended, and it is impressive to note how often the exquisite and delicate tools and methods of modern research return again and again to reinforce and rediscover conclusions earlier hinted or arrived at by those masters without such help.

Papers are presented on the anatomy, gross and microscopic, chemistry, physiology, dynamics and clinical aspects of the cerebrospinal fluid, and related structures, i.e., choroid plexus, meninges, and pathways. Radioactive isotope studies, electron microscope work, histochemistry and clinicopathologic aspects are presented, many in inspiring detail and all with a decidedly postgraduate and sophisticated approach. Beyond the clarity necessary for establishing grounds for the various aspects considered, no time is wasted on fundamentals.

Most of the time, if a controversial point is raised or a debatable piece of work is presented, controversy and debate promptly ensue by virtue of a lively, articulate, and informed panel whose members express themselves with lucidity, force, and an amazingly detailed familiarity with many of the various facets of the topic at hand. Many of the discussions seem to contain almost as much thought, preparation and study as some of the papers. As the foregoing would imply, the discussions are always stimulating and refreshing, and it seems a shame, especially to some of us with shortened arms and older eyes, that the publishers have such an annoying habit, page after page, of reproducing the discussions in fine print as though they were something that it is really hoped that no one would notice too well. On the other hand, however, this volume, the thirty-ninth published by the Foundation, is unusual in that because of the large number of plates it is printed on coated paper.

A review of each of the chapters would far exceed the allotted space as each is often a monograph in itself. Noteworthy are some of those on the anatomy of the

(*Continued on page 52*)



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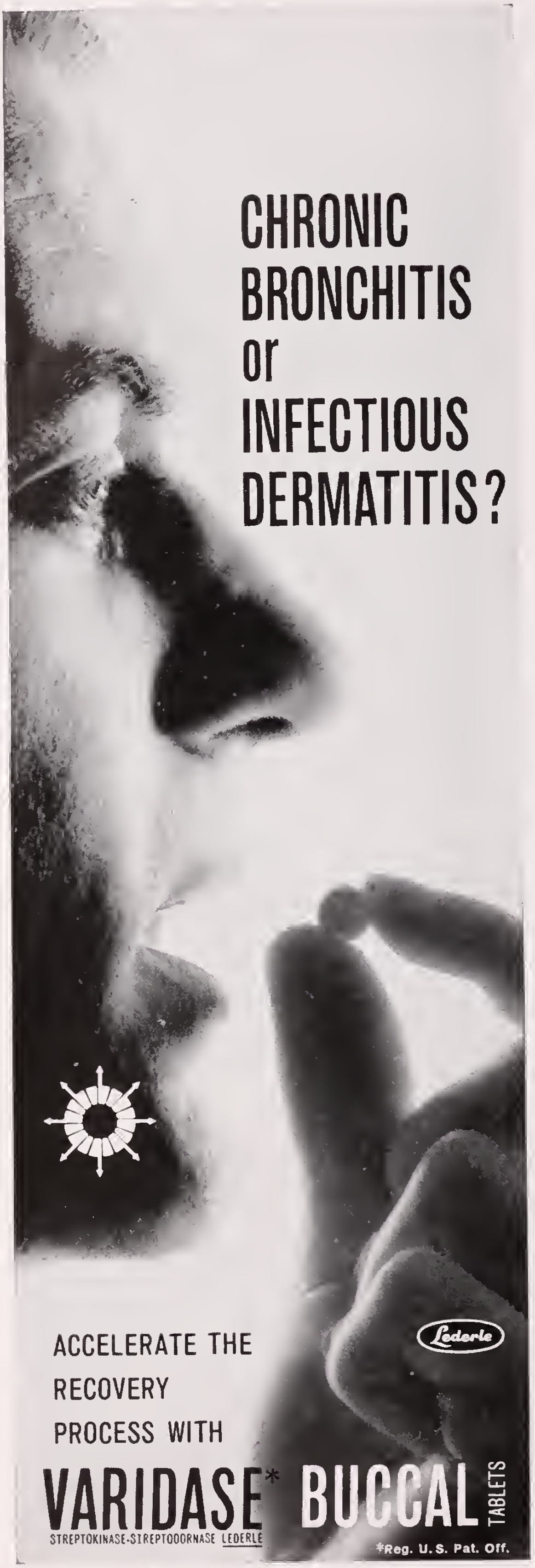
CHRONIC BRONCHITIS or INFECTIOUS DERMATITIS?

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Book Reviews

(*Continued from page 48*)

choroid plexus and granulations. Kappers from the State University, Groningen, in a paper on histogenesis of the telencephalic choroid plexus in humans from specimens up to 4 months' gestation time, describes 3 phases of development. During the first described, at about 6 weeks, active haemopoesis occurs. It is interesting to recall that under the influence of toxic or noxious stimuli this choroid plexus may, in the adult, be found reverting back and forming blood elements. At no stage of the first 3 developmental phases were mitoses observed, a fact which occupied the panel somewhat in discussions, as did the occurrence of glycogen vacuoles in the cells of stages 2 and 3. No one seems sure just what the role of such glycogen might be; an educated guess theorized that it may play a nutritional role for cells relatively far from blood vessels. Dr. Leslie Turner of the University of Manchester makes the point that the textbook concepts of the pia-arachnoid membrane, at least in the parasagittal region, is incorrect. It is based on the work of Weed and the observations of Cushing, and there are described a series of channels whose outer wall is the arachnoid membrane, the inner wall the pia mater. The author claims that according to present studies no such spaces exist except possibly as artifacts, and describes the 2 meninges as intimately bound together as a pia-arachnoid membrane whose inner surface is firmly attached to the cerebral cortex. The discussion following this is spirited, the physiologist unable to quite fit this in with the undoubted circulation of the fluid, clinicians with their operative findings. Wislocki and Ladman present a paper on the fine structure of the mammalian choroid plexus which gives us a detailed understanding of the capabilities of the electron microscope as well as a very clear delineation of the structures explored by it. An evaluation of data obtained from radioactive isotopes is interesting in that results from this method of investigation did not seem as illuminating as might have been expected, and have often been easily misinterpreted. The reasons for these are roundly considered. The blood-brain and the brain-cerebrospinal fluid barriers, relatively new concepts, are explored. Some of the physical chemistry involved in this work I found a bit technical and tedious and some of the conclusions difficult to agree with.

The volume doesn't pretend to settle very much or to speak with finality. Indeed, as Hugh Davson says in his contribution, the purpose often is more to draw attention to possibilities than to establish theories. It is a well edited, fairly comprehensive tour of the current thinking and lines of attack on an elemental problem whose satisfactory solution, even of some of the plainest details, continues to baffle us and to defy the refinements of modern research.

James A. Gannon, Jr., M.D.

MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME XXVIII *February,* 1959 NUMBER 2

THE INCREASED INCIDENCE OF ENTEROCOCCI IN THE BUCCAL CAVITY IN THE PRESENCE OF DISEASE*

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CLINICIANS frequently describe ulcerated malignant tumors as being grossly infected and use antibiotics to control these infections. Radiation therapists have noted that the presence of infection in the treated area alters the response to radiation. Intensive broad-spectrum antibiotic therapy often has a visible and/or symptomatic effect on cancer in certain patients, often decreasing edema, diminishing the intensity of disagreeable odors, and relieving pain produced by ulcerated cancers, as well as minimizing systemic symptoms of fever, malaise, etc. There is no question that associated local infection is responsible for many signs and symptoms associated with ulcerated cancers.

The nature of this infection in ulcerated cancer has not been defined. The existing literature does not indicate which microbes are present in ulcerated cancers, or in what manner the presence of a given cancer may alter the normal flora of the buccal or other body cavities. This report will summarize the results obtained in a study of the manner in which cancer alters the normal enterococcus flora of the oral cavity. Perhaps such information may eventually lend support to a concept that microbes are agents involved not in the causal etiology but in the biologic behavior of some cancers. Patients with ulcerated cancer might well be better handled if the microbes present in the various cancers were known. Also, variations in the type of infection present might explain why 2 anatomically and histologically identical ulcerated cancers respond differently to therapy or have differing patterns of metastasis.

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* This study was supported in part by research grant C2016 from the National Institutes of Health, Public Health Service, United States Department of Health, Education, and Welfare.

The enterococci are not the only microbes being considered in this project. It seems feasible, however, to report the results obtained whenever sufficient data are accumulated, since the danger inherent in isolation of the several components of the mosaic is perhaps less than a decision to wait until all components have been assayed. It is hard to believe that the total woods can be studied and understood without a primary consideration of the several trees composing it.

MATERIALS AND METHODS

The oral enterococcic flora of patients with untreated or recurrent cancer in the buccal cavity, larynx, pharynx, esophagus, stomach, colon, lungs, uterine cervix, vagina and skin were studied as the patients appeared at the George Washington University Cancer Clinic for treatment. Similar pharyngeal tonsil swabs for cultures were obtained from patients who had pernicious anemia or achlorhydria in order to determine the influence of hypochlorhydria on the enterococcic flora of the buccal cavity. As controls, noncancerous individuals as well as patients with benign tumors were studied. Initial specimens, in most instances, were obtained before treatment was initiated. Specimens were not taken from patients receiving antibiotic therapy or from patients who may have had antibiotic therapy during the previous 30 days. The normal individuals were obtained from a cancer detection clinic. Each individual was found free of detectable serious illness as determined by detailed history, complete physical examination, urinalysis, blood count, X-ray film of the chest, serological test for syphilis, proctoscopy, and (in women) vaginal cytologic studies.

Isolation. Pharnygeal tonsil swabs were washed in 4 ml. azide dextrose enrichment broth (Difco 0387) and incubated at 37°C for 24 hours. Ethyl violet azide broth (BBL 01-452) was inoculated with 3 large loopfuls of the primary enrichment broth and then incubated until turbid (24 to 48 hours). Three loopfuls of the secondary enrichment broth were transferred to 6.5 per cent sodium chloride, brain-heart infusion broth and incubated until turbid (24 to 48 hours).

Turbid salt broth was considered positive presumptive evidence for the presence of enterococci. Occasionally turbidity in the salt broth could be attributed to 1 of the following microbes: staphylococci, yeast, and rarely non-spore-forming gram-positive rods. Turbid salt broth was streaked to 40 per cent bile-aesculin agar.[1, 2] Suspicious colonies which grew on the bile-aesculin agar were fished to broth and further identified systematically by the procedure outlined below.

Microscopic morphologic features. Smears were made from 18-hour brain-heart infusion-broth cultures and were stained by Gram's method.

Fermentative properties. The cultures were tested for their ability to produce acid from 17 carbohydrates. Purple broth gelysate base (BBL 01-283), containing 1 per cent carbohydrate autoclaved at 116°C for 10 minutes, was used. Aesculin was incorporated in a 0.5 per cent concentration due to its relative insolubility. Carbohydrate broth was inoculated with a loopful of 24-hour broth culture and incubated at 37°C. Cultures were examined daily for changes of indicator for 2 weeks and at 3 and 4 weeks before being discarded.

Other tests. Motility was determined by inoculating a semisolid (0.3 per cent agar) medium. Cultures which grew diffusely along the line of inoculation were examined further by microscopic study of a young room-temperature broth culture. Nutrient gelatin was inoculated, then examined daily for 30 days for evidence of gelatinolytic activity. The catalase test was performed by flooding the abundant growth of a 24-hour infusion agar slant with 3 per cent hydrogen peroxide. The test was considered positive if abundant gas was immediately evolved. The endpoint thermoresistance technic was essentially that followed by Swan.[1] Hemolysis was determined by microscopic examination of the agar medium surrounding deep colonies in a 3.5 per cent defibrinated rabbit blood-infusion agar (Difco 0045). Skim milk was autoclaved at 116°C for 10 minutes, and 1 per cent autoclaved methylene blue was added to give a final concentration of 0.1 per cent. The medium was inoculated with 0.1 ml. of a 24-hour broth culture and observed for reduction of the dye followed by coagulation of the milk. Bile tolerance and ability to hydrolyze aesculin was determined by streaking 40 per cent bile-aesculin agar and recording observations after 24 hours incubation.[1, 2] Aesculin-hydrolyzing microbes produce a black discoloration in and around the colonies. Bile tolerant microbes which do not attack the aesculin develop white colonies and do not alter the color of the medium.

Serologic tests. Polysaccharide extracts for precipitin tests were prepared by the hot hydrochloric acid method of Lancefield[3] and the autoclave method of Rantz and Randall.[4] Cells for the hot acid extract method were grown in Todd Hewitt broth (Difco 0492), and cells for the autoclave extract technic were grown in tryptose phosphate broth (Difco 0060). The group precipitin test was performed in a capillary tube. Potent desiccated group D streptococcic antiserum was obtained from Difco Laboratories.

RESULTS

Two hundred and ninety-seven control swabs from normal individuals (160 males and 137 females) were studied. Group D streptococci were isolated from 4 per cent (7 males and 4 females—see Group A in table 1).

Eighty-one patients (60 males and 21 females) with ulcerated malignant tumors of the buccal cavity, larynx or pharynx were studied. Group D streptococci were isolated from 25 per cent (15 males and 5 females—see Group B in table 1).

Seventeen patients with nonulcerated malignant tumors of the buccal cavity tumors were found to be free of group D streptococci (see Group C in table 1).

Seventeen patients with nonmalignant buccal cavity lesions (5 ulcerated and 12 nonulcerated) were studied. One patient with ulcerated parakeratosis and acanthosis harbored enterococci in the buccal cavity (see Group D in table 1).

Eighty-eight patients (48 males and 40 females) with malignant disease in areas of the body other then the buccal cavity were studied. The patients in this group can be divided into the following subgroups on the basis of the site of the disease: breast 14, skin 12, stomach 9, lung 8, colon 7, esophagus 5, lymphatic leukemia 5, uterus 5, kidney 4, Hodgkin's disease 3, prostate 3, lip 3, parotid 2, eye 1, ovary 1, bladder 1, thigh 1, knee 1, testis 1, thyroid 1, and trachea 1.

TABLE 1

Incidence of Group D Streptococci in the Buccal Cavity in Health and Disease

Group	Group Description	Malignant	Ulcerated	No. Studied	No. Positive	% Positive
A	Normal controls	–	–	297	11	4
B	Buccal cavity lesions	+	+	81	20	25
C	Buccal cavity lesions	+	–	17	0	0
D	Buccal cavity lesions	–	±	17	1	6
E	Lesions in other areas of the body	+	±	88	14	16
F	Pernicious anemia			10	1	23
G	Achlorhydric or hypochlorhydric people	±	±	21	6	

KEY: + = Positive, malignant or ulcerated; – = Negative, nonmalignant or nonulcerated; ± = Some positive and some negative.

Sixteen per cent of these 88 patients were found to harbor group D streptococci in the buccal cavity (see Group E in table 1). These positives are found in the following subgroups: skin 3, stomach 2, esophagus 2, breast 1, colon 1, uterus 1, kidney 1, parotid 1, ovary 1, and testis 1.

One of the 10 achlorhydric patients with pernicious anemia studied was found to harbor group D streptococci in the buccal cavity (see Group F in table 1). Twenty-one achlorhydric or hypochlorhydric patients (values for gastric hydrochloric acid persistently below 20) were studied (see Group G in table 1). The patients in Group G can be divided into the following subgroups: gastric resection for malignant tumor of the stomach or duodenum 9, achlorhydria 3, hypochlorhydria 3, gastric or duodenal resection for nonmalignant ulcer 3, cancer of the lung 1, cancer of the cervix 1, and cancer of the palate 1. Group D streptococci were isolated from 6 of these patients; 2 had gastric resection for malignant tumor of the stomach, 1 hypochlorhydria only, 1 cancer of the cervix, 1 cancer of the kidney, and 1 cancer of the palate. Seven (23 per cent) of the 31 patients in Groups F and G with pernicious anemia or hypochlorhydria were found to have group D streptococci in the buccal cavity.

Swabs taken directly from the lesions of 5 patients with malignant lesions of the cheek, hand, cervix and sole of the foot were studied. Group D streptococci were isolated from 2 of these patients whose lesions were on the cheek and sole of the foot respectively.

A total of 26 patients with group D streptococci in the buccal cavity were restudied after various periods of time, and 62 per cent continued to harbor this organism (table 2).

A total of 70 strains of group D streptococcus were isolated from the buccal cavity. Morphologically the cells are Gram-positive cocci in short chains and pairs with a tendency to form elongated lancet-shaped cocci. The cultural behavior of 50 nonmotile strains, chosen at random, is described in table 3. The 5 motile group D streptococci will be described in a separate paper.

Streptococci were isolated from the buccal cavity which resembled group D streptococci in morphologic and physiologic behavior. Although these microbes were heat-resistant, salt- and bile-tolerant, the Lancefield precipitin test for group D polysaccharide was negative. These streptococci occasionally gave a positive precipitin test with an autoclaved extract of the cells.[5] This report does not concern itself with such organisms.

TABLE 2

Persistence of Group D Streptococci in the Buccal Cavity of Individuals from Whom This Microbe Was Once Isolated

Group	Group Description	Malignant	Ulcerated	No. with D Strep.	No. with persistent D Strep.	% with persistent D Strep.
B	Buccal cavity lesion	+	+	13	7	
E	Lesions in other areas of body	+	±	9	5	
G	Achlorhydric or hypochlorhydric	±	±	4	4	
Total.				26	16	62

KEY: + = Positive, malignant or ulcerated; ± = Some positive and some negative.

DISCUSSION

Fever and/or acute infection are factors frequently suggested as being of significance in cases of temporary or permanent spontaneous regression of neoplastic disease.[6] The case of complete regression of adenocarcinoma of the colon reported by Fergeson and Black[7] would appear to lend validity to this concept. It is not uncommon to observe spontaneous remission in untreated leukemia patients following an episode of acute infection. The experimental animal work of Grabchenko and Podilchak[8] indicates that tumor growth, metastases and death of animals are often enhanced by infection, but in some infected animals tumor growth is hindered without disappearance of the tumor. They also noted that complete regression and disappearance occurred when small tumors were experimentally infected. Therefore, it does not appear unwarranted to speculate that microbes may occasionally cause remission of a malignant tumor and that, possibly in controlling infectious diseases, we may remove 1 cause of spontaneous regressions.

TABLE 3

Cultural Behavior of 50 Nonmotile Group D Streptococcus Strains Isolated from the Buccal Cavity

Substrate:	Specie	
	Faecalis	Durans
	49* strains	1 strain
Adonitol	49−	−
Arabinose	30+, 19−	−
Dextrose	49+	+
Dextrose gas	49−	−
Dulcitol	49−	−
Inositol	1+, 48−	−
Lactose	49+	+
Maltose	49+	+
Mannitol	46+, 3−	−
Rhamnose	12+†; 37−	−
Salicin	49+	+
Sorbitol	42+,7−	−
Sucrose	26+†; 23−	−
Trehalose	49+	−
Xylose	24+, 25−	−
Inulin	2+, 47−	−
Raffinose	3+‡; 46−	−
Aesculin	49+	+
6.5% sodium chloride broth growth	49+	+
Ethyl violet azide broth growth	49+	+
Motility	49−	−
Gelatin	8+, 41−	−
Catalase	49−	−
Resistant to 60°C for 30 minutes	48+, 1−	+
Rabbit blood agar hemolysis alpha 33 beta 14 gamma 2		beta
0.1% methylene blue milk reduction	48+, 1−	+
0.1% methylene blue milk coagulation	45+, 4−	+
40% bile-aesculin agar growth	49+	+
40% bile-aesculin agar colony color black	49+	+
Precipitin test-hydrochloric acid extract	49+	+
Precipitin test-autoclaved extract	49+	+

* 6 of these strains were variety *liquefaciens*, and 14 strains were variety *zymogenes*.

† Often delayed.

‡ Delayed.

There can be no real solution to the problem of how microbes influence the biologic behavior of cancers of the oral cavity until we know how the microbial flora of the mouth varies in both health and disease. Williams and Hirch[2] have observed that for practical purposes enterococci are not found in the mouth. Our study of 297 normal adult males and females indicates that enterococci are probably only transient microbes of the buccal cavity in 4 per cent of these normal individuals. One normal hypochlorhydric individual was encountered with a persistent enterococcus flora. The incidence of enterococci in the buccal cavity of patients with ulcerated malignant tumors of the oral cavity was more than 6 times greater than that found in normal individuals and, contrary to findings in normals, they appear to be persistent even after the ulcerated cancer had been controlled or removed. The presence of enterococci in the oral cavity was not obviously related to oral hygiene, since in several instances enterococci could be isolated from "clean" mouths and in other instances could not be isolated from normal or diseased mouths in which the hygienic state was extremely poor, even when accompanied by a fetid odor and massive accumulations of detritus and decaying food particles.

The significance of not finding enterococci in patients with nonulcerated malignant lesions of the buccal cavity must await the study of more patients, but it is interesting to observe that the only buccal cavity with nonmalignant disease showing enterococci was that containing an ulcerated lesion.

The heterogeneous group of 88 patients with malignant disease in various areas of the body excluding the buccal cavity were found to have an enterococcus incidence of 16 per cent. This frequency is elevated above that encountered in the normal control group but is considerably lower than the incidence encountered when disease originates in the upper digestive tract. Again, contrary to the findings in normals, many of these patients were persistent carriers. These findings suggest that the cause for the presence of the enterococci may be due to systemic changes, secondary to the presence of cancer, since most of these cancers were not located even close to the oral cavity.

When the 31 patients with demonstrated absence of or depressed gastric acidity are considered, the incidence of enterococci in the buccal cavity was found to be 23 per cent. Although this frequency is greatly above that encountered in the normal group studied, it appears unwarranted to conclude that gastric acidity is the sole factor in the environment which creates a suitable abode selectively favoring the multiplication of enterococci in the normal oral cavity or in the oral cavity containing a malignant lesion, since several patients with free acid have been found to harbor these organisms in the oral cavity and vice versa.

The normal individuals who were studied seldom persistently carried group D streptococci in the buccal cavity. Nonetheless they were isolated from the buccal cavity of 4 per cent of the normal adults studied. This seems to indicate that enterococci are encountered in the normal oral cavity only as transients. Patients with the described disease processes in the oral cavity not only have an increased incidence of group D streptococci in this area, but once this microbe appears in the buccal cavity it tends to persist (table 2).

Simply because enterococci find conditions in the stated disease processes suitable for their abode does not necessarily mean that they are causally related to the disease. It appears likely that enterococci increase in the oral cavity during the disease process only when certain undefined factors that accompany the disease favor growth of the microbe.

It was observed in studies of isolates from blood agar plates streaked with broth in which the material on a throat swab was suspended that some oral cavities contained almost pure cultures of group D streptococci, while in other oral cavities group D streptococci could not be recovered from multiple blood agar streak plates. However, group D streptococci were recoverable from some of these oral cavities which appeared to be free of this organism when the blood agar streak technic was used with enrichment broth media. These observations, coupled with knowledge of the technic employed by Williams and Hirch[2] which allowed them to conclude that for practical purposes enterococci are not found in the mouth, were interpreted to indicate that some type of enrichment medium was essential to establish the incidence of enterococci in the buccal cavity.

Evidently broth containing 6.5 per cent sodium chloride is not an ideal enterococcus enrichment medium, because Swan[1] found that 3 per cent of the group D streptococci which he studied failed to grow in such a medium. Our study is perhaps limited to strains of oral cavity enterococci which are 6.5 per cent tolerant of sodium chloride.

The 49 strains of nonmotile *Streptococcus faecalis* in the oral cavity which give a positive Lancefield group D precipitin test produce acid from dextrose, lactose, maltose, salicin, trehalose and aesculin without exception (table 3). These carbohydrates are oxidized to acid end-products in the absence of oxygen of the air. This is true fermentation, *sensus strictus* Pasteur. Acid was never produced from adonitol or dulcitol. Acid was rarely produced from inositol, inulin or raffinose. It should be recognized that occasionally strains are encountered which do not ferment mannitol and/or sorbitol. The 3 mannitol-negative alpha hemolytic *Streptococcus faecalis* strains did not ferment raffinose or inulin but grew well in 6.5 per cent sodium chloride broth. Although the 3 mannitol-negative strains grew well in the purple broth gelysate base medium containing 1 per cent mannitol, 2 strains produced acidity in a phenol red base containing beef extract and 1 per cent mannitol. Rycroft's beta hemolytic *Streptococcus faecalis* strains all ferment mannitol.[5] The 5 *Streptococcus faecalis* strains which were raffinose- and/or inulin-negative fermented mannitol and grew well on 6.5 per cent sodium chloride broth.

There is little assurance that a streptococcus which shows growth on 6.5 per cent sodium chloride broth, reduction and coagulation of 0.1 per cent methylene blue milk, growth in 0.1 per cent potassium tellurite broth, resistance to 60°C for 30 minutes, and black colony on 40 per cent bile-aesculin agar and which possesses the characteristic carbohydrate fermentation pattern unequivocally gives a positive Lancefield group D polysaccharide precipitin test. Indeed, *Streptococcus faecalis* does have a characteristic physiologic reaction pattern, but this pattern does not appear to exclude all streptococci which give a negative Lancefield group D precipitin test reaction. The physiologic reaction pattern can only serve as presumptive evidence of Lancefield group D streptococci. The physiologic reaction pattern must be supplemented and interpreted in the light of the presence of specific group D polysaccharide which appears to be an integral part of the internal bacterial cell.

The enterococcus test seems to be a useful addition to the coliform test in gauging the bacterial contamination of well water, particularly when the coliform values are low or fluctuating. Enterococci are being advocated as the preferred index organism for determining the presence or absence of fecal pollution, since enterococci, in contrast to the coliform group, are not extensively found in virgin soil. It does not appear to be out of order to suspect that some of the enterococci isolated from frozen fish, frozen fruit juices, milk, water, soil and restaurant utensils may be of buccal cavity origin.

SUMMARY

Group D streptococci are not a part of the permanent oral flora of the majority of normal adults; however, they were encountered in the oral cavity as transients in 4 per cent of the 297 normal adults studied. Group D streptococci are more frequently encountered in the buccal cavity of patients with ulcerated malignant neoplasms located in the buccal cavity and in the buccal cavity of patients with malignant disease in other areas of the body. There is a marked tendency for group D streptococci to persist in the buccal cavity of patients with diseases in the upper digestive tract. The presence of enterococci in the oral cavity was not found to be directly correlated with achlorhydria, hypochlorhydria or state of oral hygiene.

The anatomic, immunologic and physiologic reactions are recorded for 50 group D streptococci isolated from the buccal cavity. *Streptococcus faecalis* is the most frequently encountered enterococcus species isolated in the oral cavity.

BIBLIOGRAPHY

1. SWAN, A.: Use of bile-aesculin medium and of Maxted's technic of Lancefield grouping in identification of enterococci (group D streptococci). J. Clin. Path., 1954, **7,** 160.
2. WILLIAMS, R. E. O., AND HIRCH, A.: Detection of streptococci in air. J. Hyg., 1950, **48,** 504.
3. LANCEFIELD, R. C.: Antigenic complex of *Streptococcus haemolyticus*; demonstration of type-specific substance in extracts of *Streptococcus haemolyticus*. J. Exper. Med., 1928, **47,** 91.
4. RANTZ, L. A., AND RANDALL, E.: Use of autoclaved extracts of hemolytic streptococci for serological grouping. Stanford M. Bull., 1955, **13,** 290.
5. RYCROFT, J. A.: Mannitol bile broth for identification of faecal streptococci. Month. Bull. Min. Health, 1956, **15,** 197.
6. EVERSON, T. C., AND COLE, W. H.: Spontaneous regression of cancer: preliminary report. Ann. Surg., 1956, **144,** 366.
7. FERGESON, J. O., AND BLACK, B. M.: Symposium on unusual surgical lesions of colon; disappearance, probably spontaneous, of locally inoperable cancinoma of descending colon: report of case. Proc. Staff Meet. Mayo Clin., 1954, **29,** 407.
8. GRABCHENKO, I. M., AND PODILCHAK, M. D.: Effect of staphylococcal and streptococcal infections on cancer. Trudy Akademii Medicinski Nauk SSSR, 1952, **21,** 233.

A SYSTEM FOR CONTROL OF PATHOGENIC BACTERIA IN THE HOSPITAL ENVIRONMENT*

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DURING THE DECADE 1943–1953 physicians enjoyed the safe convenience of an assortment of antibiotic drugs with which hospital-acquired infections could be controlled.

Gradually the prophylactic administration of antibiotics became fashionable. However, antibiotic-resistant mutant strains of pathogenic organisms have increased. Concomitantly there has been an increase in serious hospital-acquired bacterial infections.

Discovery of new antibiotics has obviously not been maintained at a rate commensurate with the antibiotic resistance problem as it now exists. With this decrease in efficacy of antibiotic drugs for the patient it has become necessary to treat the hospital instead.

No adequate determination of the relative importance of the various problems in the hospital environment has been made. Human carriers, faulty sterilization technics, programs for restricted use of antibiotics—all of these play their part in the infection problem.

Without precise knowledge of which element might be predominant, our Committee on Infections elected to study and improve the hospital environment.

Hospital environment is usually controlled to a limited degree by chemical antiseptic agents, the effects of which are temporary. Substances with lasting bactericidal properties were therefore substituted for traditional antiseptics in our hospital for this study. The new agents are contained in chemical formulations of bis (n-tributyl) tin oxide and general disinfectants (known under the trade name of Permachem†). The ingredients and their percentages in the formulation are:

	Per cent
Dialkyl–dimethyl ammonium chloride–alkyl groups as in the fatty acids of coconut oil	0.0214
Bis (n-tributyl) tin oxide (TBTO)‡	0.0151
Salicylic acid	0.0140
Inactive ingredients	99.9495

Effects of these bactericidal agents on Staphylococcus aureus (80/81) under controlled conditions. An enclosed 6-sided box equipped with an air recirculation device and a nebulizer for the introduction of bacterial suspensions was employed. Pure cultures of coagulase positive, penicillin-resistant *Staphylococcus aureus* (80/81) were introduced and recirculated at 350 cubic feet per minute.

In Experiment A the walls of the test chamber were sterile and no filter was used. In Experiment B the same conditions were maintained but with an untreated ordinary commercial filter used in the circulator and the wall sprayed with the bactericide. In Experiment C the same conditions as B were maintained but a similar filter treated with the bactericide was employed. The numbers of *Staphylococcus aureus* colonies grown from the 3-hour exposure periods during each experiment are shown in table 1.

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† The agents used for bactericidal conditioning in this experiment were developed and formulated by The Permachem Corporation, 342 Madison Avenue, New York, N. Y., at the request of the Committee on Infections, Francis Delafield Hospital.

‡ ®Metal and Thermit Corporation.

TABLE 1
Staph. Aureus Colonies Grown from Three-hour Exposure Periods

Experiment	Total Colonies *Staphylococcus aureus*
A (Control)	10,000 plus
B (Ordinary commercial filter, bactericidal walls)	51
C (Bactericidal filter and walls)	2

This bactericide kills *Staphylococcus aureus* 80/81. Further, it does this efficiently when applied to an ordinary commercial filter operating under the air-stream conditions common to most air-conditioning and control systems. This efficiency is enhanced by coating surfaces with the bactericide.

This bactericide in its various formulations can be incorporated into plastic, wool and cotton fibres; applied to wall, floor and ceiling surfaces; bound into synthetic fibre air filters; used as laundry additives for hospital linens; mixed with household detergents and waxes. These products meet another ordinary requirement for hospital procedures in that they are inexpensive.

The concentration of these agents needed for broad-spectrum antisepsis is well below that at which toxicologic problems are encountered.

TECHNICS OF BACTERICIDAL CONDITIONING

A. *Hospital linens.* All hospital bed linen, towels, clothing and draperies were treated at the laundry.

B. *Floor, wall and ceiling surfaces.* Walls, floors and ceilings were washed, then sprayed with detergent solutions combined with bactericide. Following initial treatment, ordinary ward daily cleaning was continued, but bactericide was added to the mop-water detergent.

C. *Furniture.* Furniture was washed with detergent bactericidal solution; mattresses were sprayed, then covered with bactericide-impregnated plastic covers. Patients' personal belongings, food trays, book carts, and bedside tables were similarly treated.

D. *Air.* Air control included a quantity of fresh air passed through bactericidal synthetic fibre filters. Recirculation for constant bactericidal action was regulated by double filtration fans.

On each floor air was exhausted from one end of a central corridor connecting the wards, as well as from utility rooms, kitchens and bathrooms opening on this corridor, since culturing showed them to be points of possible contamination.

Thus, each ward had slight positive pressure, a fresh air supply (bactericidally treated) of about 150 cubic feet per minute, while the ward air was recirculated through bactericidal filters once every 2 to 5 minutes. Control floors initially received similar air treatment but with ordinary commercial filters installed in fans.

CLINICAL STUDY

The primary objective has been to employ bactericidal agents to create self-decontaminating hospital areas for patients.

Since hospital infections are endogenous, the study was centered upon wards and operating rooms of the Francis Delafield Hospital, a 300-bed general cancer hospital which is not air-conditioned.

Extensive bacterial culturing of air, surfaces and fabrics was undertaken. Hospital routines for behavior of patients, visitors and staff were not altered during the control period and afterward, except for those specific changes which are part of the conditioning.

Following bactericidal conditioning of floors 2, 3, 4 and 5, it was decided to use the second and fourth floors as experimental controls. That the lasting effectiveness of bactericides might lower bacterial populations on the control floors was ignored. Overall dependability of tests is therefore reinforced.

Surgical and urologic patients, presumed to contain more potent sources of bacterial contamination, occupy the third and fifth floors (test areas). Medical and gynecologic patients occupy the second and fourth floors (controls).

RESULTS

For simplicity, presentation of the results is limited to data on air samples. In each of the 40 wards (10 per floor) duplicate blind-coded cultures were made on 3 successive days with results as shown in table 2.

TABLE 2
Results of Duplicate Blind-coded Cultures

Floor No.	Initial Colonies/hr. (Average)	5 Weeks after Conditioning, Colonies/hr. (Average)	Per cent Reduction
2 (Control)	41	38	7
3 (Test)	46	6	87
4 (Control)	37	38	(Increase) 3
5 (Test)	44	8	82

The average figures after 5 weeks of bactericidal conditioning on the test floors show reductions as high as 87 per cent when compared with the initial figures, while test and control floors show an 82 per cent cross-comparison.

DISCUSSION

Multiple technics were employed to achieve these striking reductions. The need for all, rather than a part of, these technics was demonstrated by a partial "reversal" experiment.

During the sixth week all bactericidal treatment was suspended on the test floors. Air control was continued without bactericidal filters. Bactericidal agents were removed from cleaning and laundry procedures.

Thus the only remaining surfaces with bactericidal conditioning were the walls, ceilings and floors (mopped daily with ordinary mop water). Fifty per cent of the furniture, blankets and curtains were changed or washed during this week. All doors were left open.

At the end of this week a 40-ward 2-day duplicate group of cultures was made (table 3).

TABLE 3
Cultures after Suspension of All Bactericidal Treatment

Floor No.	Colonies/hr.
2 (Control)	40
3 (Previously a test floor)	18
4 (Control)	38
5 (Previously a test floor)	21

The previous test floors still show a reduction of 50 per cent in colony count. This indicates that, although bactericidal air control was omitted, the colony counts on the test floors were still held to one-half those on the control floors.

This establishes the importance of treating surfaces, fomites and fabrics as well as air with bactericides of lasting quality.

SUMMARY

1. The incidence of hospital-acquired, antibiotic-resistant infections is increasing.

2. This problem is related to the hospital environment.

3. Central air-conditioning is not required for the long-lasting bactericidal conditioning of hospitals.

4. The type of bactericidal conditioning used in this experiment is compatible with ordinary hospital housekeeping technics.

5. Bactericidal conditioning reduces the total number of bacteria contaminating the hospital air by 82 per cent or more.

6. Bactericidal conditioning with the agents and technics used in this experiment kills *Staphylococcus aureus* 80/81.

MEDICAL, SOCIAL AND ECONOMIC ASPECTS OF PREVENTIVE GERIATRICS

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BECAUSE the basic pathologic factors of degenerative diseases are unchanging, we are inclined to overlook the medical implications of the changes in the related social and economic factors which have occurred in this century. Recent medicoeconomic arguments about the provision of medical care for our older population have largely ignored these changing factors and have focused almost exclusively on statistical and financial aspects. One outstanding example of this is the argument that if we would insure the medical risks of all older people they would thus be able to get "preventive care" and the amount of disease would decline.

SOCIAL CHANGES AFFECTING MORBIDITY

Table 1 presents the causes of death in 1900 and 1955. The remarkable shift in the diseases from which we die today as compared with 1900 is more or less paralleled by morbidity statistics. Vaccines and antibiotics have given us such remarkable control of most infectious diseases that they now cause only a relatively small part of the total days Americans suffer from disease. Naturally, with the resulting increase in percentage of older people, degenerative diseases account for a growing percentage of the total.

TABLE 1
Major Causes of Deaths in the United States

	1900	1955
	per cent	*per cent*
Infectious and parasitic diseases	61	7
Disease of disorganization and degeneration	28	80
Other	11	13
TOTAL	100	100

Let us consider also another remarkable change that has occurred—the change in age distribution of our population in this century. Figure 1 shows how greatly the pediatric/geriatric ratio has shifted, if for present purposes we call age 35 the dividing line.

A third very important change is the ratio of people living rural-agricultural lives to those living urban-industrial lives (figure 2). These ratios are based on census counts of urban and rural residents. The percentage of United States workers now engaged in agriculture is even smaller than that for those who live in rural areas. Probably fewer than 10 per cent of our total labor force is actually employed in agriculture today.

The medical implications of these 3 sets of data may be summarized as follows:

1. There has been a great shift from a relatively few, fairly easily diagnosed and fairly simply treated acute infectious diseases to a very long list of degenerative conditions which are insidious in their onset, chronic in their course, and greatly influenced by social factors, and which today are utterly unpreventable in the sense that the infectious diseases were preventable. There are no vaccines and almost no specific remedies for treating, let alone preventing, degenerative diseases. Of course, older people should be encouraged to have frequent check-ups, and no doubt we need better insurance programs for our older people. But mere change of method of payment for such services will not produce "preventive care" nor automatically

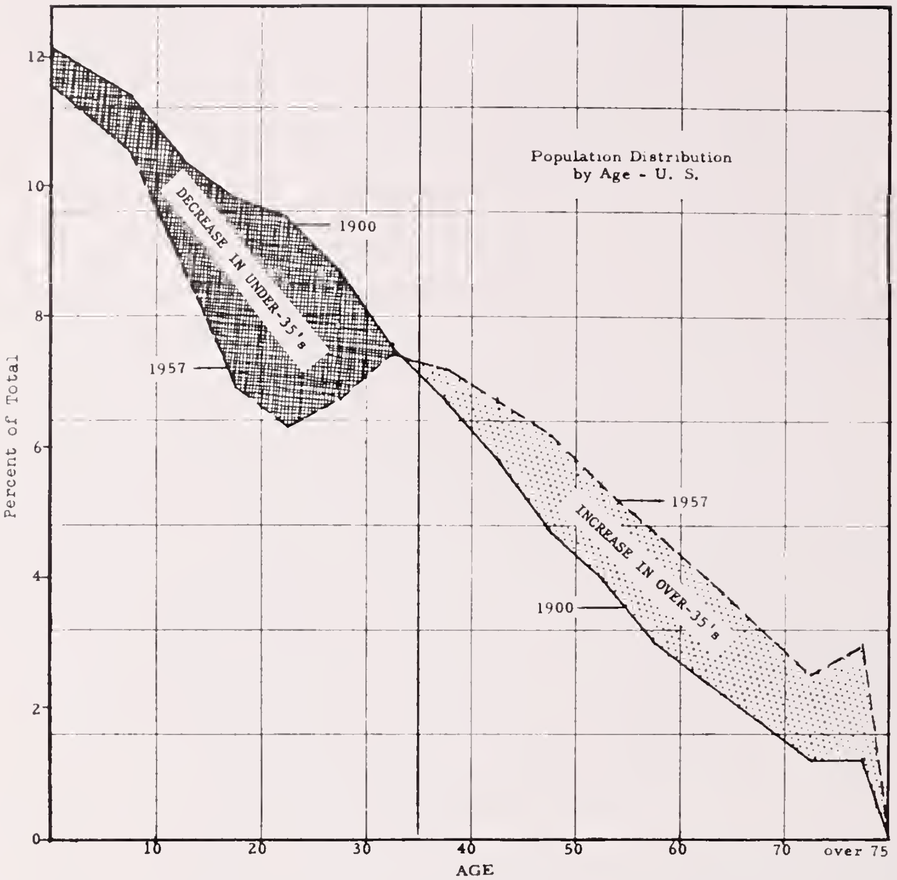

FIG. 1. Comparison of population distribution by age in the United States, 1900–1957. Data furnished by Office of Vital Statistics, United States Census Bureau.

reduce disease. When the preponderance of the diseases we must prevent are in the degenerative category, such talk is nonsense.

2. The mere numerical shift from a 1900 population in which 28 per cent were age 35 and over to that in 1957 in which over 42 per cent are over 35 is of great medical import. When we bring in the further fact that, on the average, people over 65 require several times as much hospital care as do those under 65 we see what a great load of medical and hospital care we face if we continue to handle chronic diseases as problems merely of early diagnosis and early treatment. And if the expense of this care is to be largely borne by those under 65, as at present, it is apparent that we are piling a very large load on a group already staggering under a heavy tax burden.

3. The profound shift from a rural-agricultural to an urban-industrial society has separated most of our people from the land so they no longer are able to produce their own food and fuel as the rural-living family can do. The needs for social insurance of all kinds as a way of maintaining income with which to buy food and fuel derive from this economic fact. It seems likely that our mental hospitals have already been filled with older social rejects, many of whom would have remained useful and mentally healthy in a simpler agricultural society. A mere easing of the path into geriatric hospitals is likely to swamp these also with a still larger group of social rejects because no social stigma will attach to entering a geriatric hospital re-

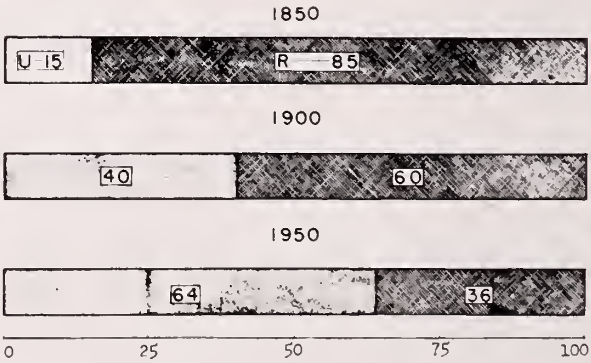

FIG. 2. Rural versus urban population in the United States (in per cent of total), 1850–1900–1950. Data furnished by Office of Vital Statistics, United States Census Bureau.

gardless of whether the method of payment is public or private.

4. The shift from an agricultural to an industrial economy has also led to a rigidity in our standards for employment so that it is becoming increasingly hard for people even as young as 35 to find jobs in a good many industries and offices. Today we are not only rejecting from the labor market considerable numbers of people who are handicapped by acquired defects but growing numbers whose chief handicap is simply that of being older than 35, or 40 or 50. Since agricultural production was much more flexible in its labor needs, it provided jobs for the halt and the lame, the old and the young, as well as for those in the prime of life. In an agricultural economy the problem of being allowed to earn one's keep does not involve overcoming a hiring policy or an adverse pension or Social Security regulations. But these are the almost insurmountable barriers many people face in our present economy. The effects of these frustrations on health cannot easily be measured, but they undoubtedly are great.

5. Another point of interest is that the actual physical work involved in much farm labor was a beneficial stress and no doubt a valuable preventive of premature physical senility.

6. Finally, the psychosocial value of being permitted to work as long as one cared to was a prime preventive of boredom, which is the number one psychosocial disease of today's older people.

Economics of Retirement

These situations seem to point to 2 general conclusions. First, we have been very foolish in encouraging, not to mention forcing, nonproductive retirement on great numbers of our people. And, of course, all policies which discourage the hiring of people in their 30's, 40's and 50's are, if possible, even more absurd. Accordingly, we should abolish those Social Security and pension restrictions which require people to retire in order to collect the insurance benefits due them for money saved in earlier years. Such deferred income should merely be a means of adjusting for a declining earning power in later years and should enable older people to reduce their work time without too greatly reducing their income. No doubt the necessity at present of retiring in order to be eligible to collect Social Security is the sound reason why so many physicians have resisted entering this program.

There is a serious flaw in many of our pension plans also. Most private pensions vest in the employer. If the employee leaves before retirement he is penalized. All pensions should be made to vest in the individual, so that job changes early in life do not result in losses of pension savings and so that in later life the pension rights do not become an anchor preventing older employees from moving to new and more challenging jobs.

And of course, hiring policies which discriminate against workers because of insignificant factors such as age alone should be abolished. Surely, industry can see that if American workers (most of whom work in industry) are not permitted to work, then industry will be taxed directly or indirectly to support them on relief rolls. Besides these economic reasons for reversing such hiring and retiring policies, there are also medical and psychosocial reasons for doing so, which will be considered next.

Personal Preventive Medicine

The second, the medical, conclusion resulting from all these changes is that a great new opportunity for the generalist to practice preventive geriatrics seems to be dawning. Since the degenerative diseases begin to take a toll even in the 30's, it seems apparent that preventive geriatrics must begin at least that early and probably should really be considered to start at birth. This new form of prevention probably offers an opportunity for restoring the prestige of medicine to the level it once had—to the level of the beloved family doctor who really was the leading citizen of almost every community. It will do this because the practice of preventive geriatrics will strengthen the same roles which made the family doctor so beloved. Preventive geriatrics will minimize the important but unfortunately rather coldly technical roles of specialists which in recent years have so dominated the relations of doctors to patients.

Preventive geriatrics will provide personal preventive medicine to all beyond the pediatrics age limit. The desirability of personal preventive medicine is something that has been ackowledged in theory for many years, but except for obstetrics too little of it has been applied to adults. At the young end of the age scale where infections were the primary concern, pediatricians have developed a remarkably successful preventive program. But the only widespread effort to provide preventive medicine for adults—the annual physical—has proven to be of limited value. This is not to suggest its abandonment. As will be indicated shortly the physical examination should continue but be looked on as only one rather small part of a much broader program.

What is needed to provide personal preventive medicine for adults?

Health education. In recent years though there has been growing talk about extending the preventive concept to encompass the degenerative diseases, there has also been apathy to these ideas on the part of both the public and physicians. Part of this apathy has been due to professional acceptance of a hopeless attitude toward aging and the degenerative diseases which accompany advancing age. This is not justified, and doctors need to take leadership in overcoming it. Though no spectacular anti-aging vaccines are likely to be found, there are many proven measures which can delay the rate of aging and the onset of severe chronic disability. No doubt better measures lie ahead.

As indicated above, advocates of prepaid health insurance have argued that it is necessary to develop an all-inclusive medical insurance payment plan if we are ever to provide "preventive care" for the degenerative diseases.

It is the use of the word "care" that gives us a useful clue to the fallacious reasoning of those who think this is a simple economic problem. Because pediatricians give preventive care (cod-liver oil, "shots," etc.), it is assumed that they are prime movers in the triangle of mother-child-pediatrician. Actually it is the mother, and not the pediatrician, who is the prime mover. She has been educated to believe that vaccines, immunizations, and frequent check-ups prevent disease and give her children as well as herself healthier, happier lives. She finds the money to have care given to her child and preventive advice given to her because she is convinced of the value of these measures. She knows it is cheaper and easier to prevent than to cure. Although some of this prevention is purchased on a prepayment basis, much of it is purchased on a fee-for-service basis. So it is evident that the method of payment is not the key factor in obtaining that "care." Rather, the intelligent coöperation of mothers, who have been educated to the value of prevention by pediatricians, nurses, public health officials and others, is the key factor.

When we look at the preventive services which a doctor might offer his older patients, we see that the term "preventive care" is even less applicable. In the first place, there is today not a single degenerative disease for which there is a known and reliable preventive measure, such as for poliomyelitis, for example. But, as Stieglitz[1] has so clearly shown, practically no individual even in youth enjoys "perfect" health. Certainly in the middle and later decades all of us suffer more or less from degenerative conditions. Until research has given us deeper insight than we presently have into the nature of the degenerative diseases, it is nonsense to even speak of "preventive care" of them. But delay and control and amelioration are practical and useful subgoals which geriatricians should learn to pursue as effectively as pediatricians have done.

PREVENTIVE GERIATRIC SERVICES

Today 5 main services can be offered. One is early detection of diseases through check-ups.

A second and new service is the detection of environmental stresses before they have been translated into organic disease. A third and also new service, dispenser of beneficial stress, will be explained shortly. But 2 other services, health education and health consultation, are the key services in prevention for adults, because it is through these that the first 3 will be provided. Unfortunately, because of general public ignorance concerning their own bodies, it is impossible at present to make the physical checkup as useful a health tool as it should be, much less persuade large numbers of patients to carry out intelligently preventive measures necessary to avoid harmful stress and to use beneficial stress.

When we consider the nature of health consultation, we again note how fallacious it is to think of this service as "care" which a physician can give. Consultive advice can be given only to those who are mature enough to recognize their needs, energetic enough to seek advice, and wise enough to understand and follow it. Those few who possess this degree of maturity can and do practice preventive medicine on themselves, and they use their physicians as consultants to advise them on the finer technicalities of their problems. Those who now do this most successfully are, of course, those who know the most about the anatomy and physiology of their bodies and the mechanisms of disease. They are best equipped to ask the right questions of their doctors and likewise are best equipped to utilize the advice and guidance they receive. Thus we see on analysis that, for the present at least, the preventive concept can be applied only in a limited sense to degenerative diseases; and we see that the prime mover in achieving this limited degenerative disease control, which Stieglitz aptly calls "constructive medicine," is in fact the intelligent patient and not the physician. It is clear from such analysis that today the barrier which prevents most people from seeking this service is ignorance and not economics.

The first problem, then, is to educate more patients concerning their own physiology and the mechanisms of disease so that they will be able to carry out intelligently those measures which can delay and minimize degenerative processes. It is increasingly clear that most people today are getting either too much or too little stress, both physical and physiologic. One extreme is probably as serious a health threat as the other in the middle and late years. It is doubtful if the average doctor at present has the professional medical-educational "know-how" and facilities, much less the time, to teach patients how to attain the "golden mean" of stress in which they would get sufficient amounts to be beneficial but to avoid the excesses which will be harmful. It is certain that most patients would find it too expensive to buy this kind of health education and counseling as separate individuals from busy doctors at the rates they would need to charge.

Lay health education is the fundamental first step in developing this form of preventive medicine. The medical profession should take leadership in organizing programs for lay health education. These should be organized on a thoroughly professional basis. A curriculum should be planned, classes held, tuition paid, teachers (doctors and medical educators of all kinds) paid adequately for well prepared lectures and demonstrations, examinations given, and so on. This cannot succeed as a "free" service. If maintaining health and preventing disease is a desirable service, there is no reason why the public should not pay for this service just as they pay for other valuable services. This is not to say that industries, unions and other groups might not take an active interest in procuring such services on a group basis. But in any case the individual should be induced to want this health education just as strongly as he wants other worthwhile things.

Health counseling. As lay education begins to turn out people who can understand the medical meaning of stress, fatigue, immunity and other basic "facts of life," physicians will begin to have patients who can consult them intelligently as health counselors. At that point the generalists will be in a position to provide other aspects of this modernized service as the "orchestra director." He will be responsible for keeping the scores (the medical records) for his patients. Just as the orchestra leader is the only person with a complete score concerning the major activity of all instrumentalists, so the general health record will be in the hands of the generalists. It will be their responsibility to see that the essentials of each person's medical history are properly recorded so that at a future time when these facts become important (they become increasingly important in the middle and later years) they will be available and intelligible to whoever reads them.

Disease and pre-disease detector. The routine physical and psychologic assessment will take on new meaning when given to a medically sophisticated patient. The examination will no longer focus almost entirely on the discovery of early disease. Instead, its first aim will be to discover those areas of excessive or inadequate stress, such as overweight, overfatigue, nervous tension, and excessive environmental stress or psychic tension before they have been translated into disease. When serious disease requiring specialist services is discovered at these examinations or at any other time, the health counselor will be called on to advise on the selection of the proper "instrumentalist" (specialist) to be used in removing the cause of the disease.

Dispenser of beneficial stress. The practitioner of personal preventive medicine will also be alert for early signs of organ disuse. There is no more firmly established concept in biology than that of disuse atrophy. Disuse (inadequate stress) can be just as harmful as excessive use (abuse). We observe muscle atrophy in a few weeks' time when an arm or leg is placed at complete rest in a cast. If the antibody-forming mechanisms are not stimulated from time to time, these mechanisms become impotent. The heart which is not required to exert itself soon becomes incapable of compensating to meet a sudden exertion. The capacity to sweat is soon reduced if it is not utilized. No doubt the list can be extended greatly to include all organs and systems. Perhaps the most important organ of all, the brain, is the one most frequently subject to disuse atrophy. If people are going to live to be 70, 80, 90 or 100 years old, as they already are doing in large numbers, they must be able to do so without being bored most of the time. Since no one can spend all his lifetime leisure watching ball games, or Bob Hope, or any other combination of TV programs one can imagine, it becomes necessary for people to learn how to exercise pleasurably—beneficially stress—their minds and bodies without the assistance of TV and other aids. In short, real mental and physical culture will need to become an aim of medicine.

Medical knowledge concerning the use and abuse of stress and much knowledge of how to protect and support the nervous-endocrine system already exists and is being used by a few pioneers in this field. But physiology and physical medicine and other branches of medical science now face a real challenge to broaden and deepen this knowledge to the end that the years of wisdom can also be years of health and vigor for most of us. And, although it may not be a direct job of the future general physician to teach people the pleasure of mental and of intellectual activity, he will certainly play an important role in making such activity physically possible for larger numbers of people than have ever before enjoyed them.

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30 East Court Street
Doylestown, Pa.

BIBLIOGRAPHY

1. Stieglitz, E. J.: The Second Forty Years. Philadelphia: Lippincott, 1946.

HYPERURICEMIA WITH URIC ACID NEPHROPATHY FOLLOWING NITROGEN MUSTARD THERAPY OF LYMPHOSARCOMA

Report of a Case

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ALTHOUGH hyperuricemia has for a considerable period of time been known to be present in several disorders of the hemopoietic system, including acute and chronic leukemias, lymphomas and polycythemia[1, 2, 3] a review of medical literature of recent years has failed to reveal much in the way of a discussion of this problem of hyperuricemia occurring during and particularly following the treatment of lymphosarcoma.

The following case report illustrates just such a case and is presented as an example of what may be an important complication of chemotherapy of the lymphomas, and as a preliminary report of what is intended to be a more significant later study, following the collection of a larger series of cases, which would provide a greater quantity of data concerning this problem.

Report of Case

C. U. (P.H. 31261), a 49-year-old white man with a proven diagnosis of lymphosarcoma of approximately 1 year's duration, was admitted to Providence Hospital, Washington, D.C., on July 19, 1958 for the purpose of receiving a course of nitrogen mustard therapy.

His basic disease, lymphosarcoma, was diagnosed in October, 1957, following the removal of several enlarged inguinal lymph nodes. Prior to the present admission he had been treated with X-ray therapy. This was his first course of nitrogen mustard.

On admission he was found to have numerous enlarged peripheral lymph nodes, several small subcutaneous nodules within the scalp, and an enlarged spleen. Routine blood count and urinalysis were found to be within normal limits.

The patient was given a total dose of 0.4 mg. per Kg. of body weight of nitrogen mustard intravenously in 1 dose. This was given by the usual technic of injection of the material through the tubing of a free-flowing intravenous infusion of saline, and the patient apparently tolerated this procedure well. There were no unusual reactions to the drug. He was discharged on the day following this treatment to be followed at home and in the office by his private physician.

The patient was re-admitted to Providence Hospital on July 25, 1958, 5 days later. At this time he was found to be in moderately severe distress, complaining of lower abdominal pain, colicky in nature, with some transmission into both flanks. This pain had begun 2 days prior to this admission and was quickly followed by the onset of hematuria and the passage of some "gravel" in the urine.

Routine urinalysis revealed an acid urine (pH of 4.5), with 3+ albuminuria and a urinary sediment which was reported as being loaded with red blood cells. The blood count again was found to be within normal limits. A blood urea nitrogen was reported as 34 (normal 8 to 15), and the uric acid was 9.8 (normal 2 to 6).

The patient was treated conservatively and showed rapid improvement following hydration and rest. No stones nor urinary "gravel" were found during this hospitalization.

Two days following admission another urinalysis revealed an acid urine (pH 4.8), which was negative for albumin, and with a urinary sediment containing innumerable red blood cells and some uric acid crystals. The BUN at this time was 31 and the uric acid 5.5.

An intravenous pyelogram was then performed, and this revealed a slow bilateral excretion of the dye but was otherwise thought to be within normal limits. It was considered that this slow or poor excretion of dye was related to impaired renal function secondary to uric acid nephropathy.

The patient showed continued clinical improvement and was discharged after 5 days of hospitalization.

DISCUSSION

This case well illustrates the sharp rise in serum uric acid levels which may occur secondary to massive tissue breakdown following the chemotherapy of the lymphosarcomas or related conditions with nitrogen mustard. As in this case, the hyperuricemia thus produced, or increased in degree, may then result in uric acid crystallization in the urine with the formation of uric acid stones and the production of uric acid nephropathy.

This hyperuricemia may be responsible for an aggravation of, or an increase in the degree of renal insufficiency in patients with impaired renal function existing prior to the sudden rise in uric acid levels of the blood. This situation reflects in these patients an inability on the part of the already impaired kidneys to handle adequately the excess demands placed on them by this rise in the blood levels of uric acid and other purines and pyramidines. Another factor to be considered here is that in these patients we may have actual mechanical impairment of the kidneys by lymphosarcomatous infiltration of the kidneys, with resulting impaired renal function on this basis prior to any increase in renal insufficiency as a result of high uric acid levels. This has been noted as a postmortem finding in which there has been marked enlargement of the kidneys as a result of tumor infiltration.

Uric acid levels, though already high prior to any radiation or chemotherapy in the diseases mentioned, may become extremely high following such treatment. This occurs as a result of, and in proportion to the degree of tissue breakdown with the liberation of uric acid and other purines into the blood.

With these factors in mind it would be advisable to always consider hyperuricemia with nephropathy as a possible complication in the treatment of these patients and to take preventive measures. The use of the usual prophylactic measures against the formation of uric acid stones may well be useful. These measures consist of the following:

1. Keeping the urine dilute by encouraging a large fluid intake, that is, enough fluids to insure an output of at least 2 liters of urine a day. This may require an intake of from 4 to 5 liters of total fluids daily.

2. Keeping the urine alkaline during the entire period of expected tissue breakdown inasmuch as uric acid stones will form much more readily in an acid urine. This alkaline urine can usually be accomplished by placing the patients on oral sodium bicarbonate tablets and by the use of an alkaline-ash diet.

3. Giving a low-purine diet in an attempt to lower the pretreatment levels of uric acid, even though at this time it has not been actually proven that a low-purine diet is helpful in the control of hyperuricemia. This measure may be employed for several weeks prior to the treatment of these patients with chemotherapy.

4. Checking the uric acid levels prior to the institution of nitrogen mustard or other chemotherapy and taking particular care in carrying out the above measures in those patients with relatively high levels of uric acid prior to treatment.

SUMMARY

A case has been reported demonstrating a sudden rise in blood uric acid levels following the treatment of lymphosarcoma with nitrogen mustard. This hyperuricemia resulted in uric acid nephropathy and formation of uric acid stones in the urine.

This complication of therapy may be a frequent one in such cases, particularly with the great increase in the number of patients being treated with nitrogen mustard and other chemotherapeutic agents. Preventive measures are presented which might be of definite value in controlling this hyperuricemia and in preventing renal stone formation in the presence of such a hyperuricemia.

N.B. The author wishes to acknowledge the assistance of John Tuohy, M.D., Director of the Medical Neoplasm Clinic at Providence Hospital, Washington, D. C.

(*Continued on page 114*)

TRANSVERSE VAGINAL SEPTUM

Report of Three Cases with Method of Treatment

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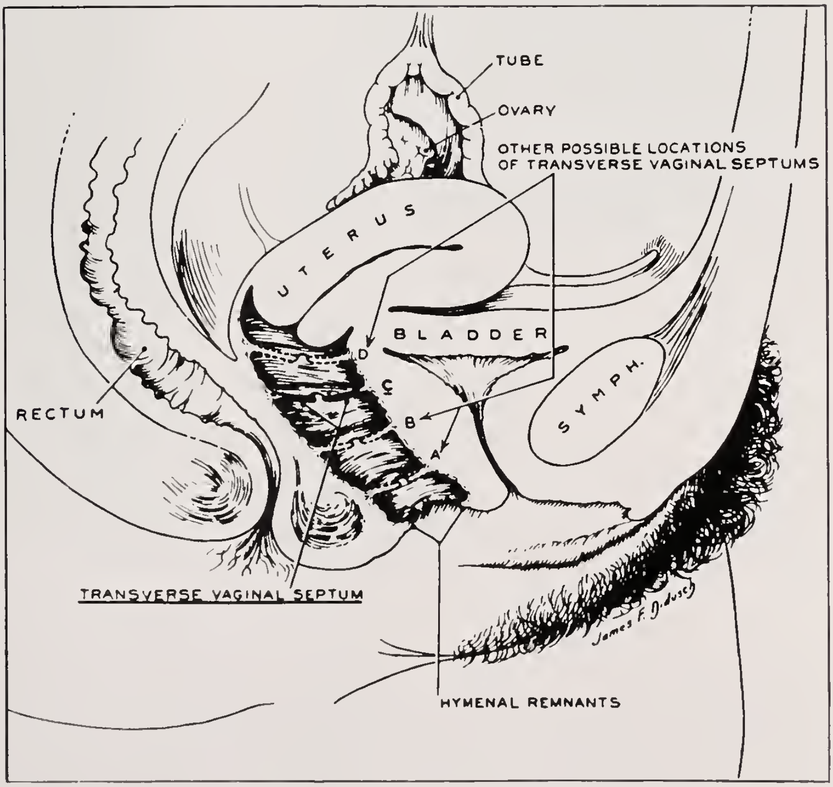
THOUGH a great deal of work has been done and much appears in the literature concerning partial and complete absence of the vagina, the more common anomaly of transverse vaginal septum has received very little notice.

The embryologic etiology of these abnormalities in the development of the vagina is not entirely clear. Their occurrence is perhaps best explained by Novak and Novak[1] who think that the vagina is of double origin, the upper portion being derived from the fused müllerian ducts and the lower from the urogenital sinus. According to this view transverse vaginal septum is most readily conceived as a failure of complete canalization of the primitive vaginal plate, or a lack of complete union between the 2 portions of the vagina.

Clinically, transverse vaginal septum presents as a membrane of variable thickness, especially at its junction with the vaginal wall, where considerable fibrosis may be present (figures 1, 2, 3). Openings are usually present in the septum and may be single or multiple, varying in size and location, but sufficient to allow for normal menstrual flow.

The obvious treatment of transverse vaginal septum would appear to be surgical excision and vaginal plastic procedure. However, a review of the cases reported, especially those of Dannreuther[2] and Bowman and Scott,[3] indicate some dissatisfaction with the vaginal plastic procedure (figure 4). When excessive fibrosis is present, bleeding is difficult to control, proper approximation of the mucosal edges is often impossible, and there is the danger of cicatricial contracture. In the first case reported here the


TUBE
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TRANSVERSE VAGINAL SEPTUM
HYMENAL REMNANTS
James F. Didusch

FIG. 1. Drawing of a congenital transverse vaginal septum with other possible locations in the vagina. Note that these septums do not replace the hymenal remnants. (Reproduced through the courtesy of Bowman and Scott.[3])

necessity of using a vaginal pack for hemostasis indicates the inability to apply sound surgical principles in all cases.

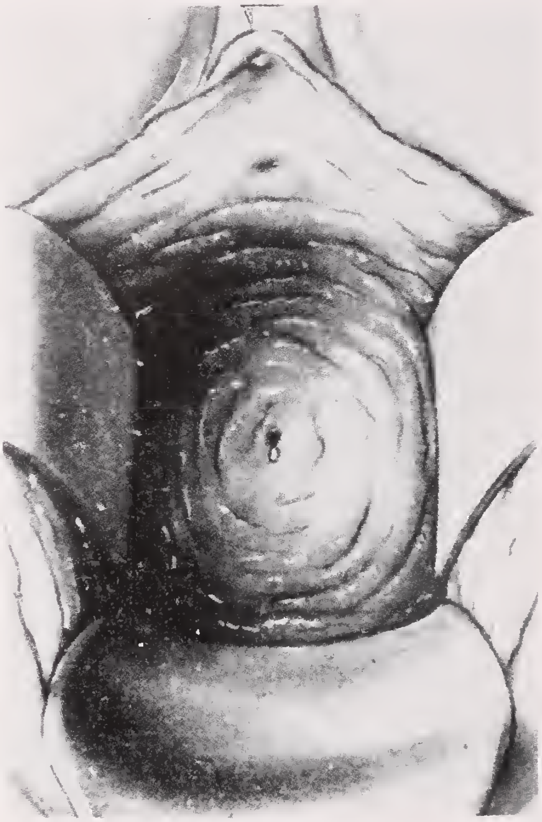

FIG. 2. Apparent congenital absence of the cervix, with small opening in the center of the vaginal vault. (Figures 2, 3 and 4 are reproduced through the courtesy of Dannreuther.[2])

The 3 cases presented here have been successfully treated with the usual surgical excision and vaginal plastic procedure, but in each instance this has been followed by the use of a vaginal dilator, designed to minimize scar formation and to prevent constriction of the operative area.

REPORT OF CASES

Case 1. A patient, aged 26 years, was referred by an internist who on physical examination had noted an obstruction in the vagina. Other than this there were no abnormal findings, and the menses were normal.

Pelvic examination showed normal external genitalia; Bartholin's and Skene's glands were not palpable. Visualization revealed an occlusion in the middle third of the vagina with an eccentric opening which admitted a small probe. The uterus and adnexa were normal by rectal examination.

The patient was admitted to the hospital, and under pentothal sodium, nitrous oxide, and oxygen anesthesia a transverse incision was made in the vaginal septum. The cervix and corpus uteri were normal. Dilatation and curettage revealed normal endometrium. The septum was thick and fibrotic, and an attempt to approximate the mucosal edges with interrupted 0 chromic catgut was not satisfactory. For hemostasis a vaginal pack was inserted and removed in 48 hours. The patient returned to the office and was instructed in the use of a vaginal dilator, while Negatan (Lilly) was applied to the granulation tissue. Excellent results were obtained from surgery and the use of the dilator. Hysterosalpingography later revealed normal internal genitalia.

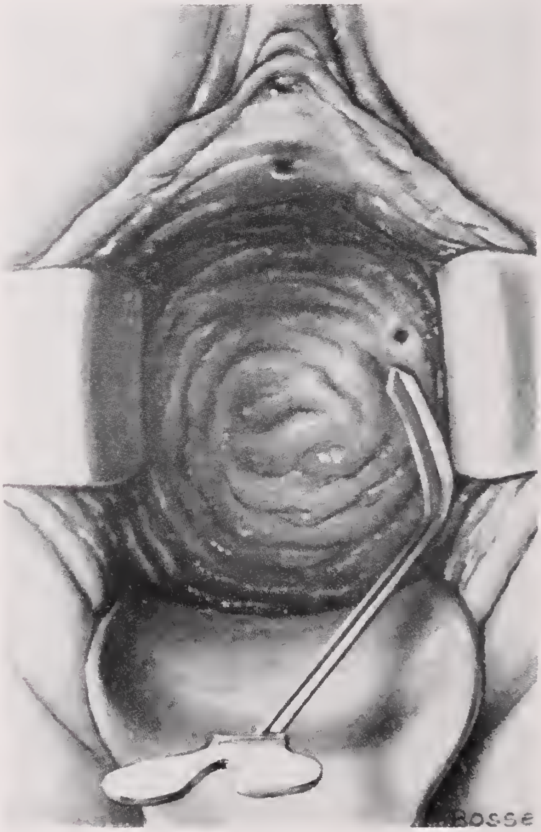

FIG. 3. Groved director pointing to small aperture in left side of the vaginal vault.

Case 2. A patient 20 years of age was referred by her mother for a premarital examination. The patient had

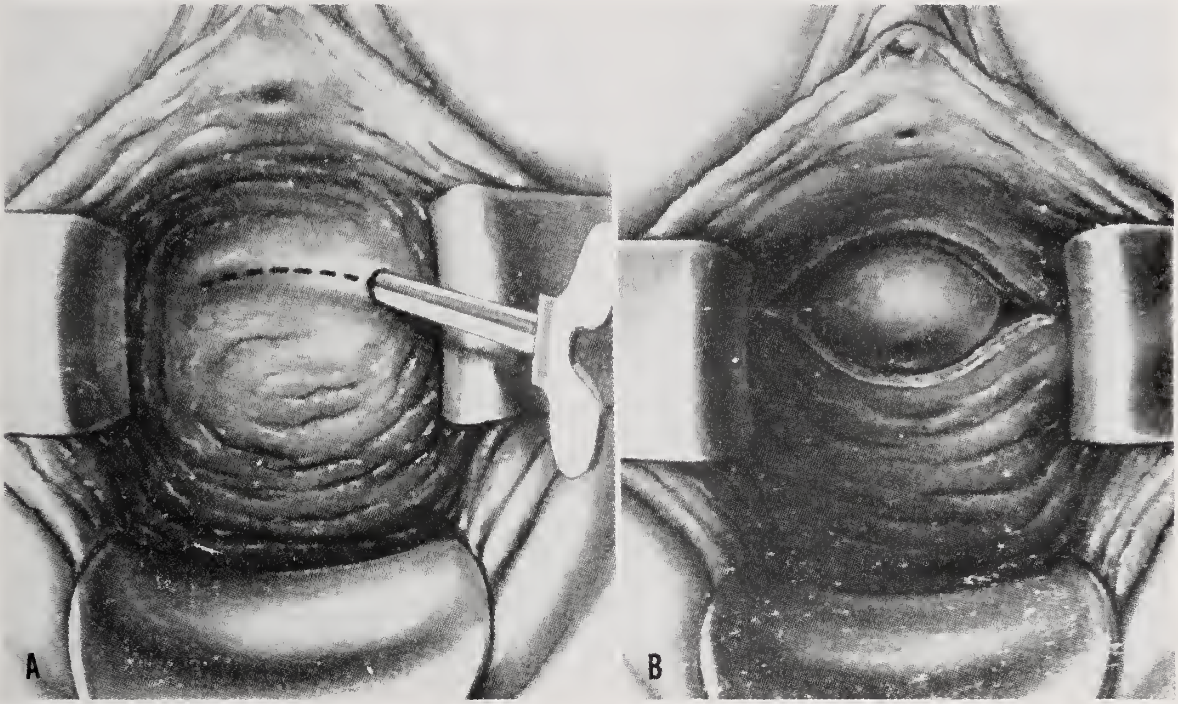

FIG. 4. (A) Showing line of transverse incision of vaginal vault mucous membrane; (B) exposure of normal cervix after incision.

no complaints and her menses were normal. Physical examination showed the vagina to end in a blind pouch about 4 cm. from the introitus. There were 2 eccentric openings, a few mm. in diameter, visible in the transverse septum. Rectal examination revealed a normal corpus and cervix uteri, and the general physical examination was normal.

The patient was hospitalized, and under pentothal sodium, nitrous oxide, and oxygen anesthesia a transverse incision was made, connecting the 2 openings. The mucosa was approximated with interrupted 000 chromic catgut sutures, and dilatation and curettage performed with normal results. The patient returned to the office and was advised as to the use of a vaginal dilator. Hysterosalpingography was normal. Excellent results were obtained from the procedure; the patient became pregnant and was delivered per vaginum 19 months after surgery.

Case 3. A woman, aged 22 years, recently married, complained of dyspareunia. A previous physical examination was normal, but she had not had a pelvic examination. Menses were normal, and her only complaint was of an obstruction in the vagina that made sexual intercourse painful. Pelvic examination revealed normal external genitalia, but the vagina ended in a blind pouch about 5 cm. from the introitus, obscuring the cervix. There was a single central opening a few mm. in diameter in the transverse septum. The cervix and corpus uteri were normal to palpation rectally.

The patient was hospitalized, and under pentothal sodium, nitrous oxide and oxygen anesthesia the vaginal septum was incised, revealing a normal cervix. There was moderate fibrosis, but fairly satisfactory approximation of the mucosa was obtained with interrupted 000 chromic catgut. Dilatation and curettage gave normal results.

After discharge from the hospital she returned to the office, where examination showed the presence of some granulation tissue. Negatan was applied to this, and the patient was instructed in the use of the vaginal dilator. Hysterosalpingography was normal. Because of removal from the city, this patient could not be followed through a normal pregnancy, but she received complete relief from her original complaint.

SUMMARY

The clinical manifestations and surgical management of transverse septal defect have been reviewed and some of the difficulties encountered at surgery have been indicated. It is thought

(Continued on page 114)

THROMBOCYTOPENIA DUE TO PHENINDIONE (HEDULIN) SENSITIVITY

Report of a Case

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PHENINDIONE (2 - phenyl - 1,3 - indanedione) is an oral anticoagulant, not a coumarin derivative, widely prescribed for its advantages of noncumulative effect and for its dependable prothrombin control with fewer prothrombin time tests. The use of phenindione is advisable to prevent intravascular clotting in cases of phlebitis, in the peripheral veins, during the postpartum period, when there is known to be coronary atherosclerosis, during myocardial infarction in the postoperative period, in a popliteal aneurysm. or the aorta, as a result of atrial fibrillation, during steroid therapy, etc.

REPORT OF CASE

Hedulin was prescribed for a 53-year-old man to prevent infarcts, thrombi, and emboli after he suffered a large anterior myocardial infarction in September, 1955. He had arteriosclerosis reportedly estimated to be 30 per cent disabling in 1944, severe varicosities of the lower extremities, left ventricular hypertrophy, nasal polyps, chronic sinusitis, and obesity (30 pounds overweight). Initial blood tests of platelets, bleeding and clotting times revealed the only abnormality to be 12,150 white blood cells. Initial dosage of Hedulin was 250 to 300 mg. daily, until the prothrombin time was less than 50 per cent of normal activity 12 days after coronary occlusion. The dosage was changed to 125 mg. in the a.m. and 125 mg. in the p.m. as the prothrombin times repeatedly remained between 30 and 50 per cent. Three months after the beginning of Hedulin therapy 2 prothrombin times were reported as 16 per cent and 0 per cent. The dose was reduced to 100 mg. in the a.m. and p.m. for a daily dose of 200 mg., and the prothrombin times returned to the 30 to 50 per cent level, which was considered therapeutically desirable. On February 15, 1956 a prothrombin time of 11.9 per cent was reported, and the Hedulin dosage was reduced to 200 mg. and 150 mg. on alternate days. It was increased to 300 mg. on the first postoperative day and 100 mg. on the second day following the surgical excision of a basal-cell carcinoma of the forehead in June, 1956. A complete blood count revealed the only abnormality to be 5 per cent eosinophils on June 25. During the summer, fall, and winter of 1956 and all of 1957 the Hedulin dosage varied between 50 mg. and 75 mg. in a.m. and p.m. There was increasing difficulty in regulating the prothrombin times, and there were occasional variations between 100 per cent and 13.5 per cent without variations in dosage of the Hedulin.

Difficulties in maintaining therapeutic prothrombin times suggest wise suspicion of impending damage to the blood-forming organs.

In February, 1958, having taken Hedulin for more than 2 years, the patient suffered severe epistaxis and purpura. The blood loss from the former was so extensive that 1,000 c.c. of blood by transfusion was required for replacement. Blood counts revealed the platelets to be decreased to 145,600 and 105,260 per cu. mm., and the clotting times to be prolonged to 13.2, 14, 15, 20.5 and 22 minutes by the Lee-White method. Before transfusion, the hematocrit was 25 per cent. Findings were adequate for bleeding time, capillary fragility and prothrombin time, but clot retraction was poor. Causes of bleeding other than too few platelets were ruled out. Complete gastrointestinal X-ray examination revealed no abnormalities. On February 3, 1958, the day the purpura was first observed, the prothrombin time was 100 per cent. The day he was hospitalized for replacement transfusion, prothrombin time was 61 per cent of normal.

The patient recovered from his thrombocytopenic hemorrhages after the Hedulin was stopped and his platelet counts and clotting times returned to normal, 396,520 and 346,320 per cu. mm. A small dose of Hedulin was then prescribed, and the platelets dropped to 236,000 and 210,000 per cu. mm. and the clotting time increased to 11 minutes, 10 seconds. The platelet count and clotting time improved again after withdrawal of Hedulin for several weeks.

(Continued on page 114)

THE PRIVATE MEANING OF TIME TO THE CHRONIC ALCOHOLIC

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TIME is the first contact of the infant's consciousness with reality. Time is almost, if not actually, synonymous with reality. Ultimately time becomes with man a social and universal event. The degree of intensity of expression of time depends upon many factors. It reacts with greater or lesser intensity in accordance with the degree of selectivity of total affectivity. This is demonstrated by the fact that time may mean a great deal for one individual and little for another. I have been intrigued for some time with the question as to the private meaning of time to the chronic alcoholic.

The human personality is a structural organism-environment field, each aspect of which stands in dynamic relation to each other aspect. Dynamically, personality is the process of living. The life force is the resultant of 2 forces: the autonomous determination of the organism and the heteronomous influences of the environment. The organism tends to go from a state of lesser autonomy to a state of greater autonomy, or, stated more simply, the individual has a tendency to master his environment and not to be defeated by it. Time and space are essential elements in the environment. The normal and well integrated individual is able to master both.

There are different rates of rhythmicity in the different layers of the personality, and for this reason we have different time concepts during different time situations. Also, there are different rhythmical patterns in the different strata of the organism, but these are synchronized by the ego system into a rational and realistic conception of time.

According to Andras Angyal, personality is a "time *Gestalt*." Time is a persistence in "time *Gestalt*" rather than in movement. Time is an object of experience for the organism. We cannot realize anything that is out of time. The normal personality is well equipped to deal with time and all time relationships realistically.

In personality disorganization there is also a disorganization of time perception. The awareness of time constitutes one of the important frames of reference by which we maintain contact with reality and thus embrace a highly developed pattern in our internal organization. In the disturbed personality there is a loss of mastery over the internal and external environments.

In the psychogenic disorders of the personality there is a loss of mastery over the external environment and some of the objects in it, of which time is one of the most important. A loss of general awareness in these cases is also involved in a specific loss of time awareness.

The structure of temporal organization involves memory, attention, reasoning, awareness and association. It is inextricably interwoven with the entire psychic structure and organization. Thus, the interruption in proper psychic functioning is reflected in the degree of alteration of distortion of the time structure. The efficiency of the time apparatus therefore becomes an index of the existing efficiency of the personality as a whole.

The chronic alcoholic has a poorly integrated personality. He is not capable of withstanding frustrations and quite often gives evidence of rather marked emotional instability. The chronic alcoholic uses alcohol to ease his tensions and as a means of escaping from the problems of life.

What causes a person to become a chronic alcoholic? He does so for various reasons. Prominent among them are the following:

1. A self-pampering tendency which reveals itself in a refusal to tolerate, even briefly, any unpleasant state of mind—boredom, anger, sorrow, disappointment, worry, depression, dissatisfaction, and feelings of inferiority and inadequacy.
2. An instinctive urge for self-expression without the determination or staying powers to organize this urge into creative productive action.
3. A more than usual craving for emotional experiences which calls for the removal of intellectual restraint.
4. Powerful hidden ambitions without the necessary resolve to take practical steps to attain them, with resultant discontent, irritability, depression, disgruntlement and general restlessness.
5. A tendency to escape from the worries and responsibilities of life and from reality by the easiest available means.
6. An unreasoning demand for constant happiness or excitement.

For the chronic alcoholic time has a special meaning. Time is a demanding tyrant. It overwhelms him. The chronic alcoholic is constantly in rebellion against authority, particularly as it is symbolized in time. This rebellion gives rise to neurotic manifestations of escapism and regression.

Generally, alcoholics constantly try to sidestep time, to avoid it, particularly the ever-vexatious present. He consumes alcohol to "kill time," to negate it, to abolish it, to escape from it.

The unresolved Oedipus is one of the most frequent sources of the chronic sense of helplessness about time that seems to characterize the chronic alcoholic.

In questioning a group of chronic alcoholics about the meaning of time to them, the following remarks were elicited:

"I drink because time weighs heavily on my hands. I cannot bear the present, and alcohol makes me forget it."

"Time just doesn't go fast enough. Alcohol speeds it up."

"Alcohol is the best medicine that I know of for the terrible weariness I have to keep living, to keep marking time, to remain in the world of men. Alcohol numbs me so that I am able to bear all of it."

"I have too much time on my hands, and I do not know what to do with it. I drink to kill time."

"When I drink, time seems to disappear. Alcohol makes me unaware of time."

"For me alcohol is an anesthetic against the wounds of time."

"I have taken to drinking gin because gin tides me over the awful spaces of time which frighten me."

"Alcohol seems to contract time for me into bearable spaces in which I can live with some degree of peace of mind."

"I drink to become fuzzy so that I will not be aware of time."

"For me alcohol is an avenue of escaping from the terrible demands of time."

With alcoholic intoxication the sense of subjective time has a tendency to vanish—to disappear almost at once. Through this abolition of time the chronic alcoholic acquires a pharmacologic modification of the time sense. Alcoholics are generally aware of the power of alcohol to soothe them into oblivion to escape time. This is used by a great many chronic alcoholics to tide them over "the terrible empty spaces of time."

President's Page

WHAT MY APPRENTICESHIP TAUGHT ME

Eighteen months spent as President-elect have taught me a great deal about the organization and operation of this Society. The President-elect receives notices of all meetings of standing and special committees and is expected to attend as many as he can.

Observing the operation of the Society through its committees has been educational, interesting, and stimulating. The tasks of some committees are more numerous and more difficult than the tasks of others, yet each committee has carefully studied the problems assigned to it and considered all of the pertinent data available before reaching any conclusion or making any recommendation to the Executive Board. Many of these problems affect not only the organization and the operation of the Society itself, but vitally affect its relations with the public both in matters of policy and health. At no time in the past century have public relations had such importance for the medical profession. The medical profession seeks no special privilege and no special consideration. The public has not always understood this. The desire to help the sick actuates the physician as much today as it has through the centuries, even though at times in the jet age this may not be so apparent. In their deliberations and in their conclusions, no chairman and no committee has lost sight of this principle.

During these 18 months both chairmen and committee members have spent many hours in meetings and in conferences, diligently seeking facts and sifting information, looking for the best solution to each separate problem. They have given their time willingly and without expectation of material reward.

Complaints of patients against physicians have received careful and painstaking consideration, so that most of these have been settled amicably for both patient and physician. The question of medical care, particularly that phase relating to prepaid health insurance and the ever-increasing demand for more nearly complete coverage, has taken a great deal of time, thought, and effort. While a final solution has not been reached, considerable progress has been made, and continuing progress can be expected. Local authorities suggested a complete revision of the Healing Arts Practice Act and the Commission on Licensure for the District of Columbia. This resulted in much discussion and several meetings before the final recommendations in this matter were made to the Medical Board. The chaotic situation among nursing homes in the District of Columbia was suspected, but little factual data were available.

As I have observed it, the performance of the chairmen and members of various committees has been exemplary. As long as the members are ready and willing to serve on committees and as long as their performance continues at the present high level, the Medical Society can face any problem with confidence.

W LeRoy Dunn

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Editorials

WHY CLASSIFICATION?

There is a Classification Committee of the Medical Society which passes upon the credentials of members of the Society applying for classification in their field of practice. At the present time only about 70 per cent of members are classified. Originally classification was established mainly for use by the Medical Bureau in giving out names to people calling in to get a physician practicing in a certain field. Classification has become far more important than this. Now that prepaid medical insurance with fee schedules is in vogue it will become more and more important for physicians to be certified as qualified in a particular field. Already two large insurance companies include in their schedules fees for certain services rendered by a physician "especially trained in and limiting his practice to Internal Medicine." Eventually it may come about that specialists in other fields may be treated in the same way in order that they may command fees commensurate with their training.

It is also necessary to be classified in order to become a voting member of a specialty section of the Society. Read the accompanying editorial entitled, "The Importance of Specialty Sections of the Society," which outlines the functions of such sections.

Any member of the Society who is not classified should phone or write the Executive Director of the Society, Mr. Theodore Wiprud, for an application form.

THE IMPORTANCE OF SPECIALTY SECTIONS OF THE SOCIETY

Medical economics has become front-page matter, and it is still a political football. The implication is that the high cost of medical care is due to doctors' fees. The medical profession is being put on the defensive. If we are not careful we shall go through a semi-starvation period, and the public will be the sufferer. Reliable statistics show that the income of physicians is modest and that a physician's overhead expense is about 40 per cent of his gross income. It has been shown on the basis of the number of hours the average physician works, including nights, Sundays and holidays, that the medical man's income is about the same as that of the union carpenter if he would work the same number of hours. This does not include the time spent by the doctor in keeping abreast of medical progress. Increase in physicians' fees, especially those of specialists, has not kept pace with inflation or increases in wages.

What has all this got to do with specialty sections of the Society? This is the era of specialization, and specialists in different fields do different things. Fees vary with the services performed by specialists in different fields. They must be established on the basis of their value to the public. The specialists must establish these fees themselves, considering always the economic welfare of the purchaser, in this case the patient. The establishment of fees is the function of the specialty section of the Society, which alone can officially represent the particular specialty. There are at present 12 sections of the Society, including that on general practice and two on subspecialties (neoplastic diseases and gastroenterology). Several specialties do not have sections. They are general surgery, and the subspecialties of plastic surgery, thoracic surgery and proctology, obstetrics and gynecology, orthopedic surgery, urology, physical medicine and rehabilitation, and industrial medicine. Allergy is also not represented, although perhaps it should be considered a subspecialty of internal medicine. It is highly desirable that these specialties should have sections in the Society, both in their own interest and in that of the public.

The organization of a section is simple. Ten or a dozen qualified specialists may petition the Executive Board of the Society for permission to form a section. The constitution and by-laws may be patterned after those of existing sections, the newest of which is the Section on Internal Medicine and Allied Subspecialties. If the Executive Board considers everything in order, the request for the formation of a new section is brought before the Society at a business meeting and voted upon.

Yes, it is important that every branch of medical practice be represented through the channel of a section of the Society. Independent organizations cannot be officially recognized by the Society in connection with fee schedules and many other matters.

THE POISON CONTROL CENTER

Accidents are the leading cause of deaths in the United States in the ages between 1 and 35 years. Accidental poisoning accounts for approximately 2 per cent of the fatalities. The bulk of these occur in children under 5 years of age. In 1954, there were 341 children who died because they had ingested a toxic substance. The most common offenders were aspirin and petroleum products, but the list of toxic agents is a long one. While the number of deaths from accidental poisoning appears to be small, the important fact is that none need have occurred and each one could have been prevented!

Certain elements make the small child susceptible to accidental poisoning. The potentially toxic substance must be in the household and accessible to the child. If the toxic material cannot be reached, poisoning will not occur. Carelessness extends even further. Not only is the poison made available but also it is often stored in an attractive milk or soda pop bottle! Too, potentially toxic substances have been made more palatable and this enhances the danger of accidental ingestion.

Environmental factors have their impact. If a child is to be poisoned, an environmental deficiency must exist. This deficiency usually is the result of a combination of things. Failure of parental control and parental carelessness make up the major portion of the environmental defect, but ignorance also has a stellar role. This ignorance is present in two important areas and often includes the family physician. First, there may be ignorance of the potential toxicity of certain materials. Not everyone recognizes that such common household products as aspirin, boric acid, oil of Wintergreen, and camphorated oil (to name a few) are latent poisons and must be kept in a safe place. Second, ignorance of the small child's behavior pattern may exist. By nature, the child most susceptible to accidental poisoning is in the age group of the explorer. He learns by subjecting his five senses to the experiences which he can encircle in his daily explorations. Anything within reach will be seen, felt, listened to, smelled, and, most important, tasted. This normal inquisitiveness must be satisfied but it also must be screened for safety.

The recognition that the deaths of small children from accidental poisoning need never occur has led to the establishment of a poison control program centered in the District of Columbia in the National Clearing House for Poison Control Centers, an agency of the U.S. Public Health Service. At the present time there are 110 local poison control centers located in 36 states. The District of Columbia Poison Control Center was organized as the second such local center in the United States and now is in its fifth year of operation. The Center is located in the Outpatient Department of the Children's Hospital and serves an important community service. A reference library, easily accessible to the physicians in the Outpatient Department of the Children's Hospital, makes it possible to furnish rapid information requested by telephone. The Center serves other valuable purposes. At the present time it is engaged in a coöperative Nation-wide study to evaluate the efficacy of gastric lavage in the treatment of poisoning by petroleum products. In addition, a careful record is made in each case of accidental ingestion and the information thus obtained is transmitted to the National Clearing House for Poison Control Centers. The analysis of the case loads and types of poisoning as recorded by the various control centers has made possible a card file of the substances which account for 95 per cent of all poison cases.

This brief description provides an insight into the problems of a poison control program. The most important aim is to prevent accidental poisoning, but there are other important, vital elements:

1. The free interchange of information with particular reference to new methods of treatment and the contents of newly encountered "trade name" products.

2. Research to develop new methods of prevention and cure.
3. The promotion of educational programs by and for health officers, physicians, hospital administrators, pharmacists, and parents.
4. Research into the factors entering into the various aspects of accidental poisoning.

However, no poison control program will be effective without the full coöperation of every individual who is concerned with the welfare of children. To quote the immortal bard:

> "Diseases desperate grown
> By desperate appliance are relieved,
> Or not at all."

Joseph M. LoPresti, M.D.
Director of Medical Education,
Children's Hospital of the
District of Columbia

KEEPING ABREAST OF THE NEWS

The quantity of literature to which the physician is exposed is enormous and overwhelming. It is not confined to journals devoted to general medicine or the specialties, but is supplemented by mail and material sent out by the pharmaceutical industries or distributed by their representatives. In addition to the strictly scientific material, the advertising is attractive, diverting and informative. From the descending torrent of information it becomes a problem to cull the essential from the nonessential.

Dr. Fishbein tabulated 395 publications in the field of surgery. To attempt to gather clippings or reprints of interesting reports or technics or to set up a catalogue of references with a cross index puts a burden on a doctor's office force which is not cheerfully accepted.

In addition to the written word the radio and television transmit news items closely related to the maintenance of good health and prophylactic measures.

Another source of medical news is the daily paper and popular magazines which publish preliminary reports from laboratories engaged in research. Many reports are premature, lack clinical confirmation, and in a sense could be classed as reportorial scoops. These accounts are not only accessible to the public but are given a headline prominence which lends a sense of authenticity. Unless the doctor is alert to the news in the press, magazine, radio and television, he will find himself stumped by a patient who wishes to know all the virtues of a new drug or recent advance in surgery. Some impatient patients resort to the telephone to inaugurate a private quiz before breakfast or at bedtime.

The medical profession has found a source of great assistance in reducing the necessity of digesting the colossal coverage of medical activity. It is the recent undertaking of the American Medical Association in publishing *The AMA News.* This rather unusual venture fills a desperate want and the publishers and editors of the organ deserve the thanks and congratulations of the profession at large. There does not seem any way to curtail the time and energy required to change the situation. *The AMA News* eases it, but it is not the complete solution.

The period that a conscientious physician can set aside to devote to all types of medical literature is surely limited. It leaves little time for hobbies, relaxation, civic duties, and home life. The younger generation of doctors have their work cut out for them if they hope to keep up with the medical Joneses, while the elder element, so to speak, can take time out for golf, the theatre, television, whodunit literature and let the world go by.

C. S. W.

In and Out of Focus

BY THE OBSERVER

Emergency Ambulance Service

It appears there are a number of Washington physicians who are not familiar with the District's Emergency Ambulance Service—its operative procedure and the qualifications and responsibilities of those who man the ambulances. It was this that prompted an interested member of the Society to request that a portion of this column be devoted to pertinent facts about the Service. Your Observer agreed.

Much of the following information is based on a discussion with Deputy Fire Chief C. P. Pool, who is at present Chairman of the Advisory Committee to the Service, and on the Operating Instructions which have just been issued by the Fire Department.

The central dispatching office for ambulances is situated in the Fire Alarm Headquarters at Douglas Street between 1st and 4th Streets, N.W. In charge is Communications Officer John V. Marean. Under him are several dispatchers working in 8-hour shifts, day and night. Calls are transmitted to ambulance stations by telephone and also by radio on a frequency assigned for this purpose.

There are, at present, 7 ambulance stations scattered throughout the city. All of them are in fire houses—4 in the northwest part of the city, 1 in the southeast, 1 in the northeast—except 1 at Casualty Hospital, which incidentally has a physician on the ambulance. All the other ambulances have drivers trained in first aid. This, apparently, is not too well known because misunderstandings have arisen among physicians who have not been aware of this fact.

Hospitals in the city which maintain emergency receiving rooms around the clock for the admittance and treatment of sick and injured delivered to them by ambulances of the Emergency Ambulance Service are:

Casualty Hospital, 708 Massachusetts Ave., N. E.
Children's Hospital,* 2125 - 13th Street, N.W.
D. C. General Hospital, 19th and C Streets, S.E.
Freedmen's Hospital, 6th and Bryant Streets, N.W.
George Washington Hospital, 901 23rd Street, N.W.
Georgetown University Hospital, 39th and Reservoir Rd., N.W.
Providence Hospital, 1150 Varnum Street, N.E.
Washington Hospital Center, 110 Irving Street, N.W.

Federal and District employees, injured while on Government property, are taken to Providence Hospital, which has a contractual relationship with the Public Health Service. There are some exceptions to this where there is severe injury or when the employee requests he be taken to another institution.

Where persons are injured on construction jobs or at their places of employment, an effort is made to ascertain, if possible, whether the patient is covered by Workmen's Compensation insurance. If it is ascertained that he has this coverage and his welfare is not placed in jeopardy, he is transported to the nearest participating hospital, except, of course, D. C. General Hospital.

Where personnel of the armed forces are concerned, they are, in cases of injury or an emergency, taken to the nearest facility or to the Naval Dispensary or to Walter Reed Army Hospital.

Where an ambulance is dispatched and upon arrival the patient does not want to go to a hospital, a release slip is obtained, if possible. In case of doubt as to the emergency nature of the case and if the patient is coöperative, he is taken to the nearest participating hospital for examination to determine whether he is in need of medical attention and whether his request for transportation to the hospital of his choice can be honored by the Ambulance Service.

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* Children up to 12 and adolescents up to 18 years of age. No obstetrical cases.

Should the patient request information as to how to obtain a doctor, the procedure is as follows: If nonindigent, he is given the telephone number of MEDICAL BUREAU; if indigent, he is provided the telephone number of the Police Department and the number of the precinct in which he lives.

Provision has been made for the transportation of communicable disease cases; however, there are detailed instructions to ambulances as to how this must be done and the precautions which must be taken.

The Operating Instructions also provide for the manner in which violent cases, attempted suicides, and individuals dead on arrival must be handled.

There is also provision for the transportation of expectant mothers where childbirth is imminent regardless of whether or not they are indigent. Where previous arrangements have been made for delivery at a hospital, the patient is transported to the designated institution. Where no previous arrangements have been made, regardless of whether a patient is indigent or not, she is transported to the nearest hospital—D. C. General, Georgetown, Freedmen's or Providence.

It should be kept in mind that the purpose of the Service is to provide 24-hour city-wide *emergency* ambulance service for the District of Columbia. As the Instructions state, "This Service is restricted to emergency cases and does not include transportation of nonemergency cases."

The above facts should be sufficient for the physician. However, if he desires further details about the Service's operating procedure, the Medical Society's Secretary has a copy of the Operating Instructions. He will be pleased to provide additional information.

Here's Where We Came In

An oft-heard complaint when doctors get together is that medical societies make no real effort to keep them posted about current controversial medical issues and what their organizations are doing about them.

The fact of the matter is that officers of these organizations have long been frustrated in their efforts to enlighten their members on all subjects of a nonscientific nature, i. e., economic and social policies, legislation, public relations, and methods of improving the efficiency in their offices.

Literally millions of words have been published in medical journals, and innumerable, usually poorly attended meetings, have been devoted to these topics. Yet the query is still heard, "What is going on?"—and the answer is too often, "We don't know."

The most satisfying progress to date has been made in disseminating information about the economic and legal aspects of conducting medical practice, but even here the situation leaves much to be desired.

True, the highly successful *Medical Economics* is widely read on subjects of personal interest to physicians, but editors of this publication have long since recognized that there is a large segment of casual readers in the medical profession. Only by repeatedly presenting the subject matter in slightly different dress can a "message" make a lasting impression.

Admitting that the variety of subjects to be discussed in this limited area is small, nevertheless it is revealing that editors find repetition year upon year not only necessary but essential. Your Observer was impressed with the truth of this in looking over the last few issues of *The AMA News*, a new publication recently sponsored by the American Medical Association.

Incidentally, there has been high praise from physician-readers for this publication. The tabloid newspaper format and the liveliness of its reporting hold great promise for its future. To editor Jim Reed and his associates, therefore, congratulations on a job well done.

Returning to the items which have appeared in the *News*, your Observer noted several topics which have been hashed over again and again in medical journals and other publications for three decades. Illustrative of these hardy perennials are some of the headlines and quotes taken at random from the *News*:

EXPLAIN YOUR FEES

"The first safeguard against . . . misunderstanding is an explanation of fees being charged.

". . . A patient has every right to know why he needs treatment or surgery, what it will consist of, and what it will cost—particularly where major services are to be rendered.

". . . Too often patients forget how much service was rendered during the month. Thus a brief statement reading, 'For professional services . . . $75,' may seem to the patient to be too high. An itemized breakdown usually will avoid this misunderstanding.

"If a statement is not itemized, it should at least have these words printed at the bottom of the statement, 'Itemized statement on request.'

". . . A proper understanding concerning fees not only will help your physician-patient relations but also will help your collections."

EVERY DOCTOR NEEDS ONE

"The AMA Law Department recommends that even before a young doctor sets up his practice, he first should seek out a family lawyer, or general practitioner of law, who can guide him on legal matters relating to his business and private life."

BUT COLLECTIONS ARE NECESSARY

"Four Simple Rules: These four simple rules will help the doctor obtain his fees and keep the confidence and friendship of his patients.

1. Estimate Fees in Advance and Explain Them.
2. Encourage Payment at Time of Visit.
3. Send Itemized Statements Regularly.
4. Begin a Methodical Follow-up If the Patient Ignores Statements for Three Months."

ADVICE TO M.D.s CALLED TO COURT

"Don't be afraid. The honest physician who comes to court to tell the truth has nothing to fear.

"Don't testify as an expert unless you are satisfied that you are qualified in the area of specialization involved.

"Don't use terminology which will not be understood by jury, legal counsel or the judge," etc.

SUBPOENAED M.D. MUST TESTIFY

"Although there is some question as to whether a physician can be called on to give 'expert' testimony without extra compensation, he must go to court if he is served with a subpoena."

It should be understood that these items were among many in the *News*, and were not necessarily the most important ones; nevertheless, they are illustrative of how long it takes to permeate the thinking of medical men where nonscientific subjects are concerned.

If repetitive methods are required to obtain more than casual interest of physicians in matters that are personally of importance to them, much more difficulty lies in the path of officers and committees of medical organizations that endeavor to inform their members about policies, legislative problems, and public relations.

It need hardly be said that in citing items from the *News*, criticism of this publication is not intended. They are used mostly to point up the fact that organizations and their publications labor under the great handicap of indifference in their efforts to inform members about the topics mentioned. The great needs are more readers of what is published and more interested listeners.

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Medical Reaction to Prepayment Plans

If any physician is under the impression that he can maintain the status quo in his financial relationships with patients under a medical prepayment plan he is due for a disappointment. The fact is that whether the plan is sponsored by Blue Shield, an insurance company, or any other organization, the relationship is altered more or less.

Many physicians have been reluctant to accept this fact, despite its obviousness. Surprisingly, some still adhere to the belief that the present trend in the provision of medical care on a prepayment basis will eventually be reversed. Dr. Leo A. Gibson, President of the Medical Society of the State of New York, is not one of these. Last year in his inaugural address he said, "The desire of the public to have prepayment medical protection of some type is so urgent that it will buy this protection from whichever plan seems most enticing."[1] The plan, he admitted, may be "in complete variance with medical society philosophy," as, for example, the union-operated plans with "no free choice supervision." Even in this situation, he stated, the medical profession is not helpless.

> "No agent, organization, or bureaucracy can provide medical care. The doctor alone can provide it. The relations between the patient and his doctor must be confidential and privileged. The Blue Shield plans which protect this principle were organized by doctors when commercial units said health insurance plans were not possible.... I believe that we should very seriously consider offering total coverage by service benefits to all persons. The increase in demand for health services might outweigh any economic loss. Whether you like it or not, prepayment medical care is here to stay. Let us support the most complete and efficient system possible—a system which is voluntary and over which we have adequate control. Doctors who participate in these plans must do so with integrity. The one who adds another hundred dollars to his fee just because his patient paid a premium is disloyal to his profession and defeats the entire purpose of the system."

Dr. Gibson concluded:

> "While controversy advertises and experience illuminates the issues of medical care, the challenge to the medical profession offers some essential tasks.
>
> "First, to realize that disunity between members of the profession and disregard of the social and economic changes which are taking place in our country today offer the opportunity for which the politicians are waiting. We are educated and trained to think, observe, investigate, and make careful judgments. We must act as a unit and speak with one voice instead of many.
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> "Second, to define through the joint work of progressive physicians and informed lay groups policies which will permit adoption of prepayment medical plans on a statewide and nationwide basis and which will be under the control of medicine.
>
> "Third, to recognize that prepayment insurance plans, labor unions, Government, or any other agent cannot provide medical care without the doctor. Medical care is entirely the business of the medical profession. The doctor, then, bravely saves or meanly loses the freedom of medicine."

Whether one agrees with Dr. Gibson in whole or in part, one must admit that he is forthright and more realistic than many of his colleagues.

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Definitions Vary

Few terms are more loosely used than "socialized medicine" and "state medicine." The reason for conflicting interpretations is that these terms mean different things to many people. "Socialized medicine" to most physicians connotes a Government system of medical care. To many outside the profession voluntary health insurance of a noncommercial type, sponsored by the profession itself, labor unions, consumer and coöperative groups, is also a form of socialized medicine.

Some months ago your Observer participated in a panel discussion on socialized medicine. As moderator, he asked panel members, all of them physicians, to define "socialized medicine." They were none too specific, but all agreed that the British Health Service was what they thought of as "socialized medicine."

Perhaps one reason for the difficulty of interpretation has been the widespread use of the term when speaking of compulsory health insurance. Then, too, dictionaries, which should be a reliable guide, are not in agreement on definitions. Here are a few:

DORLAND'S Illustrated Medical Dictionary, 23rd edition—1957. *Socialized medicine:* The practice of medicine under a system in which there is community responsibility for the care of the sick rather than individual responsibility of patient to doctor and doctor to patient.

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[1] Editorial: New York J. Med., 1958, **58**, 3266.

State medicine: A system of medical care in which the government assumes responsibility for the prevention of disease and the care of the sick.

Webster's New Collegiate Dictionary, 2nd edition—1953. *Socialized medicine:* Administration by an organized group, a state, or a nation of medical and hospital services to suit the needs of all members of a class or classes or all members of the population, deriving funds from assessments, philanthropy, taxation, or other sources. Often identified with one particular form, state medicine.

State medicine: Administration and control by the national government of medical and hospital services for the whole population, medical and hospital personnel being employed by the government and funds raised by taxation.

Blakiston's New Gould Medical Dictionary, 1st edition—1949. *State medicine:* (a) Legal medicine. (b) The control or direction of the practice of medicine by the state. Also called socialized medicine, federal medicine.

Perhaps your Observer is concerning himself too much with labels, but as "socialized medicine" has become more or less a scare term among physicians, he prefers the more specific and alternative definitions such as "compulsory health insurance," "medical prepayment plans," "voluntary health insurance," and "state medicine." There are, of course, other specific terms for describing methods of providing medical care. Any of these, in his opinion, should be used properly, because no one should be left in doubt as to what is meant.

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"All-American Left End"

Among the accumulation of out-of-date furniture and equipment, discarded books, and files of old medical journals in the "attic" of the Medical Society's building are innumerable photographs, framed and otherwise, of individual and groups of physicians of other days. In the latter category are camera "shots" of the proceedings at the Annual Scientific Assembly over a period of 20 years. Several of these are framed and now hang in the Society's offices.

Inevitably, there are the panorama pictures taken at the annual banquets which have always been scheduled during the Assembly. At the rear of these pictures, of course, is the speakers' table. With the passing years, many at this table are becoming more and more difficult to identify, but one figure is still readily recognizable to the Society's membership, not only for the lack of hirsute adornment on his pate, but because he is inevitably seated at the left end of the table. Need the older members, at least, be told that he is the Secretary of the Society?

His seeming monopoly on the outer reaches of the head table has been a source of mild amusement to some, and perhaps irritation to others. At any rate, it being customary for officers to occupy the head table along with the Society's guests, he has acquired a firmly fixed place "below the salt." In some ways, he finds his spot of considerable advantage, principally because he is not the focus of attention and therefore can observe the proceedings in a more or less detached manner. However, if he is to be honest, he must admit he has qualms about his appearance at annual dinners. Fortunately, he need no longer be too concerned about this because the annual dinners have been discontinued for less formal affairs. But there are still luncheons and other dinners where he occupies his usual place at the left end.

To those who are amused, he is pleased that they find something in his status on the banquet and luncheon circuit to smile about. To the irritated, he can give this consolation—this situation cannot go on forever.

Admittedly, the Secretary holds a place on the dinner and banquet circuit which is unique. This was pointed up by the wit in the Society's offices—the Assistant Secretary, no less—who bestowed upon his superior the title, "All-American Left End."

T. W.

REPORT OF DELEGATES TO THE AMA CLINICAL SESSION

The House of Delegates convened on December 2, 1958 in the Leamington Hotel, Minneapolis, Minnesota, concurrently with the Twelfth Clinical Session of the American Medical Association.

This midwinter meeting of the House was one of the most fruitful in the experience of your delegates. Early in the session Dr. Lonnie A. Coffin, of Farmington, Iowa, accepted the gold medal symbolizing the annual award to the General Practitioner of the Year. Dr. Coffin, the first Iowan to receive the award, was named for his outstanding contributions to the health and civic affairs of his home community.

Dr. Gunnar Gundersen, President of the Association, in his address called on the profession to exert imagination and leadership in dealing with the problems of these times. Dr. Gundersen emphasized the part which physicians must play in solving the socioeconomic problems facing medicine today and urged practical action and the discarding of "policies based on generalities, platitudes and flag-waving." He stressed the need for plans to offer care to the increasing number of "senior citizens," recommended that American medicine assist actively the programs which take modern medicine to less advanced areas of the world, and suggested that the Association support and coöperate in proposals for an International Medical Year.

The Honorable Orville L. Freeman, Governor of Minnesota, recently reëlected for his third term, asked for "the help of the leaders of the medical profession in working out a program that will most adequately meet the needs of our older citizens for health care and services of the highest order." Governor Freeman had explained the growing problem in the states of offering adequate health care and services to the older segment of our population.

Health Care for the Aged

Health care for the aged had been under consideration by the Association for some time and the Council on Medical Care had submitted a proposal to the Board of Trustees which in turn had endorsed it. It reads as follows:

"For persons over 65 years of age with reduced incomes and very modest resources, it is necessary immediately to develop further the voluntary health insurance of prepayment plans in a way that would be acceptable both to the recipients and the medical profession. The medical profession must continue to assert its leadership and responsibility for assuring adequate medical care for this group of our citizens.

"Therefore, the Council on Medical Service recommends to the House of Delegates the adoption of the following proposal: That the American Medical Association, the constituent and component medical societies, as well as physicians everywhere, expedite the development of an effective voluntary health insurance or prepayment program for the group over 65 with modest resources or low family income; that physicians agree to accept a level of compensation for medical services rendered to this group which will permit the development of such insurance and prepayment plans at a reduced premium rate."

The House adopted the proposal and directed that copies of it be distributed to Medical Society-approved plans, including Blue Shield, and to private insurance programs, requesting their coöperation. This proposal should also be studied carefully by the Committee on Medical Care of our Society.

Report on Medical Care Plans

The Commission on Medical Care Plans, which was appointed in 1954, presented its report after a thorough study of all types of plans in this country. In order to give constituent societies an opportunity to review this report, the House deferred action on it until the meeting in June, 1959. In doing so the following statement was adopted:

"We respectfully suggest to the constituent associations reviewing the report in the interim that their attitude regarding the report will be clarified if they arrive at some decisions in regard to the following basic points:

"1. *Free Choice of Physician.* Acknowledging the importance of free choice of physician, is this concept to be considered a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualification?

"2. *Closed Panel Systems.* What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician?

"These suggestions acknowledge that the policy of the American Medical Association to encourage and support the highest quality of medical care for all patients remains unchanged. They question, however, whether attitudes toward the free choice of physician and the closed panel system may be undergoing evolutionary change."

The House recommended that the Board of Trustees invite the constituent associations to forward their replies to these questions to the Executive Vice President 60 days in advance of the June 1959 meeting. It is urgently suggested by your delegates that the Committee on Medical Care of our Society review the report promptly in order that our attitude, locally, regarding the basic points mentioned be clarified or developed.

OSTEOPATHY

Osteopathy and its relationship to medicine is a much more vital problem in other areas of the country than here. In considering a resolution which would have recognized that constituent medical associations have the right to establish the relationship of the medical profession to the osteopathic profession within their respective states, the House decided that the resolution in question did not offer the appropriate solution to the osteopathic problem. Instead, the delegates requested the Judicial Council to review past pronouncements of the House on osteopathy and the status of the laws of the various states in this regard. The Council was asked to present its report and recommendations at the June 1959 meeting. The House "noted with favor that the American Osteopathic Association has amended its objectives as stated in its constitution by deleting reference to the cultism of Andrew J. Still."

MEDICAL EDUCATION

A statement by the Council on Medical Education and Hospitals supporting the development of additional facilities for basic medical education was approved by the House and at the same time the entire profession was urged to give that policy strong support in order that the misinterpretation of the Association's viewpoint outside the profession in regard to the supply of physicians might be corrected.

This statement points out that "American medicine fully recognizes the needs being brought about by the increasing population, social and economic trends, and the changing dimensions of medical knowledge and its application." It urges careful analysis of those needs and states that existing medical schools should consider the possibility of increasing their enrollment and the development of new facilities. It also declares that American medicine has the responsibility of encouraging the creation of new 4-year medical schools and 2-year basic science programs in institutions of higher learning which can provide the desirable setting.

As this statement clearly expresses an Association policy which has so often been wrongly interpreted by those outside the profession, it is suggested that it be read by the entire membership.

REORGANIZATION OF AMA

The AMA administrative structure is being reorganized; a Board of Trustees' report on this matter, which was approved by the House, described the reorganization of the headquarters staff as a long and important step in the right direction. The report informed the House that the Chicago staff has been divided into the following 7 divisions: Business Division, Law Division, Communications Division, Field Division, Division of Scientific Publications, Division of Socioeconomic Activities, and Division of Scientific Activities. The latter two are still in the process of development and are temporarily under the direction of the Assistant Executive Vice President. The Board also reported that the Committee on Legislation has been renamed the Council on Legislative Activities, with the director of the Law Division as Council secretary. This new Council will undertake an enlarged, strengthened legislative program, closely coördinated with the activities of the new field staff and the Washington Office. The latter also has been reorganized, with overall direction coming from Chicago.

The House received with commendation the report of the Committee to Study the AMA Objectives and Basic Programs and referred to the Council on Constitution and By-laws the following suggested Amendment II to the Constitution: "The objectives of the Association are to promote the science and art of medicine, and the betterment of public health, and an understanding of socioeconomic conditions which will facilitate the attainment of these objectives."

The House also recommended that the Board of Trustees establish a mechanism which will assume the responsibility for promoting active liaison with each national medical society and stated that "in scientific fields the role of the AMA should be primarily that of leadership, but every endeavor should be made to bring about coördination of the special fields of scientific interest of the other national medical organizations." Further, it approved a recommendation that the Board of Trustees give serious consideration to opening the publication of the Association to free and open discussion of the socioeconomic problems applicable to medicine.

In view of the importance of the report of this Committee to Study Objectives, etc., it is suggested that either an abstract of the entire report or the report of the reference committee of the House be made available to our membership through the pages of the MEDICAL ANNALS.

MISCELLANEOUS ACTIONS

Fund-raising problems which have arisen since the development of the United Community effort were considered again. The House reaffirmed and clarified the position it had taken in June 1958, stating that "the AMA neither approves nor disapproves the inclusion of voluntary health agencies in United Fund drives."

Recent changes in the Medicare program were noted and the House expressed regret at the substitution of Federal facilities for private care in the areas mentioned. It urged the Association to encourage the reëstablishment of services under the free choice principle to accomplish the original intent of the act.

The House recommended that the Social Security Act be amended by Congress to permit states to combine the present 4 Public Assistance medical programs into a single medical program, thereby allowing administration by a single agency and making available uniformity of services to all eligible Public Assistance recipients in the state.

In a number of miscellaneous actions the House:

Authorized the Council on Medical Service to sponsor at the earliest practicable date a Congress on Prepaid Health Insurance.

Approved a plan to develop Buyers Guides which will be sent to physicians to help their patients analyze the merits of available health insurance programs. This is something which the local Committee on Medical Care felt it could not do.

Approved a By-law allowing dues exemptions for interns and residents serving in approved training programs; called the attention of all individuals or institutions responsible for intern and resident training that medical services provided to patients in hospitals are the responsibility of duly licensed physicians.

Encouraged voluntary registration of paramedical personnel but opposed governmental licensure or registration at this time. In view of this action it is suggested that the recent action of our Society in supporting the licensing of physiotherapy technicians be reconsidered.

Agreed with the Committee on Medical Practice that relative value studies should be conducted by constituent associations and not on a national or regional basis by the AMA.

Urged that constituent societies establish committees on rehabilitation to carry out activities recommended by the Board of Trustees.

Called for continued activity to develop effective poliomyelitis inoculation programs.

Suggested that the Association take steps toward developing a plan whereby reserve medical units and individuals not immediately involved in military operations could be used to supplement civil defense operations.

A resolution introduced for the Ohio State Medical Association was received for information and should be interesting to the membership of our Society in view of the results of our recent poll on the question of Social Security coverage of physicians. In Ohio 8,960 ballots were distributed to the membership of the Association; 6,832, or 76 per cent of the ballots, were returned, with 4,095 members voting "yes" and 2,737 voting "no." Percentagewise this is very similar to the result of our poll.

The Board of Trustees reported that a volume of over 1,000 pages has been prepared listing all of the actions of the House of Delegates since its beginning in 1847. This volume is well indexed and will be extremely helpful as a guide to our committees in their work.

Due to the untimely death of Dr. Warren Furey, a vacancy existed on the Board of Trustees. Dr. Lin-

(*Continued on page 114*)

INFLUENZAL VACCINATION FOR HEART PATIENTS

A recommendation that persons with heart and blood vessel disease obtain vaccinations against influenza was issued jointly early in January by the American Heart Association and the United States Public Health Service. The text of the statement follows:

"Experience has shown that patients with heart or lung diseases are more susceptible to the hazards of influenza than is the general population. This increased risk is shown by more severe illness and by higher case fatality rates among patients with these diseases. Patients with, or prone to, pulmonary congestion secondary to heart disease are an especially high risk group.

"Studies with influenzal vaccine have clearly shown that its use significantly reduces the incidence and probably the severity of influenzal infection, in the presence of local or widespread epidemics. Furthermore, use of the vaccine is contraindicated only in those patients who are allergic to the components of the vaccine. The type of local and systemic reactions to vaccine have not been such as to constitute any significant hazard to patients with cardiac disease.

"Therefore, the American Heart Association and the Public Health Service, through its National Heart Institute, wish to call these facts to the attention of all physicians throughout the country. It is further urged that persons with cardiovascular disease consult their physicians as to the advisability of obtaining influenzal vaccination."

HEALTH PROTECTION FOR DAIRY WORKERS

Approximately 2,000 employees of Washington area dairies have been enrolled in a comprehensive health protection program which offers, in addition to the benefits of the Basic Coverage, up to $5,000 for Major Medical Expenses incurred during each illness, according to a recent news release issued jointly by Group Hospitalization, Inc. and Medical Service of the District of Columbia.

The program, which became effective as of December 1, 1958, will extend for a 2-year period. It will provide coverage for members of Local No. 246, International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America, and their dependents, a total of some 5,700 persons. The program is underwritten by Group Hospitalization, Inc. and Medical Service of D. C., Washington's Blue Cross and Blue Shield Plans.

The announcement was made for the trustees of the Milk Drivers' and Dairy Employees' Social Insurance Fund by Herman A. Schulteis, Chairman of the Board of Trustees, and Eugene Hubbard, Secretary-Treasurer and Business Agent of Local No. 246. Employers participating in the program are Alexandria Dairy Products Company, Inc.; Chestnut Farms Division of the National Dairy Products Corporation; Embassy Dairy, and the Maryland-Virginia Milk Producers Manufacturing Plant; Harvey Dairy, Inc.; Lucerne Milk Company; Thompson's Dairy; and Birmingham Dairy.

According to a joint statement by Messrs. Schulteis and Hubbard, "The higher level of benefits now available to dairy employees and their dependents is a major step forward, providing a new bulwark against the rising costs of hospitalization and medical care.

"Usually," they said, "the program's Basic Coverage benefits will provide for a major portion of the expense participants incur for hospital care. Also, more than 2,100 physicians who participate in Medical Service of D. C. will accept as full payment the allowances provided by that Plan for surgery if the employee's income is within the amounts stipulated. In illnesses in which expenses may exceed the Basic Coverage by a substantial amount, or where the Basic Coverage is not required or does not apply, the Major Medical Expense benefits will step in and fill the gap. In such cases, Major Medical Coverage is a godsend."

The Basic Coverage provides for up to 70 days of hospital care in semi-private accommodations during each hospital confinement for nonobstetrical care. During this period, expenses incurred for drugs and medicines, general nursing service, operating room, and other costly services will be covered in full, regardless of the hospital's charge. An allowance of $5 a visit for up to 177 in-hospital medical visits and a maximum of $250 for a single surgical procedure also will be provided.

(Continued on page 114)

Cancer Page

GASTRIC CANCER

Certain cancers when encountered often provoke hopelessness and pessimism. Gastric carcinoma is an outstanding example of this attitude. Gastric cancer caused the death of 108 residents of the District of Columbia in 1956 while nationally it produced 25,000 deaths, or approximately 10 per cent of all cancer deaths. These figures and the overall 5-year survival rate of 5 per cent for treated cases show this pessimism to be well deserved.

Few surgeons in Washington can report a single 5-year survival. Yet, gastric carcinoma is curable by surgical resection. In reports from certain medical centers the 5-year survival rate is 30 per cent when curative resections are attempted. When lymph nodes are uninvolved the survival rate rises to 50 per cent. These are obviously early cases, but autopsy figures disclose that approximately 15 per cent of patients dying from gastric cancer have disease limited to the stomach and theoretically are curable. If we are to improve our results in this community more of these patients must come to the surgeon sooner.

At this time early diagnosis followed by adequate treatment is the only method of improving the survival rate. Early diagnosis depends on the use of well known facts and technics. Gastric cancer should be suspected in every adult with heartburn, flatulence, epigastric fullness, distention, weight loss, anemia, and unexplained fever. Some of these patients will have a curable gastric cancer.

To screen the entire adult population, or even those over 50 years, is an obvious impossibility. There are, however, several small groups in whom gastric carcinoma should be suspected. They are (1) pernicious anemia patients (gastric cancer develops in 10 per cent despite successful therapy of the anemia, an incidence 22 times the normal), (2) achlorhydric and hypochlorhydric patients (the incidence is 3 times the expected. Eighty per cent of gastric cancers will be found in this group), (3) patients with a history of gastric cancer in a parent or a sibling (the incidence is 4.8 times the expected value), and (4) certain ethnic groups, especially Japanese men (the incidence is 2 to 3 times that for other males).

A careful history and an analysis of gastric contents for hydrochloric acid will determine which patients belong in these groups. The roentgenologist is approximately 90 per cent accurate in the diagnosis of gastric cancer. When a diagnosis of cancer is established or suspected a surgeon should be selected who will make every effort to eradicate the disease.

If the number of deaths from gastric cancer is to be reduced the patients must be given the benefit of early diagnosis and adequate treatment. At this time these are the only methods of improving the present low survival rate.

FRIDAY, FEBRUARY 27, 1959, 12:15 LUNCHEON

Midwinter Meeting, Board of Trustees, District of Columbia Division, Inc., American Cancer Society

Place: Washington Hospital Center

* * *

MONDAY, MARCH 9, 1959, 8:00 P.M.

RADIATION AS A CAUSE OF CANCER

Shields Warren, M.D.

Pathologist, Cancer Research, New England Deaconness Hospital, Boston, Mass.

Place: Auditorium, Medical Society of D.C.

FIRST DIRECTORY OF BLOOD FACILITIES

The first comprehensive directory and description of blood facilities and services ever compiled in this country has just been published by the Joint Blood Council. It shows the location of facilities, the extent of their operations, how they are organized, what specific services they offer, and other information of importance to physicians, hospitals and any person or organization interested in blood and its derivatives.

The directory is based on data obtained from a detailed questionnaire sent to all known blood banks, hospitals and clinics that offer blood-handling services. The questionnaire was sent to 3,150 institutions and 2,202 replied. Those that failed to return the information will have an opportunity to supply it for future directories.

The directory will be distributed free by the Council to all institutions and organizations that participated in its preparation, according to Dr. Frank E. Wilson, Executive Vice President. Others may obtain it at the cost price of $1.50 each from the Joint Blood Council headquarters, 1832 M Street, N.W., Washington 6, D.C.

The Council was formed three years ago by the American Association of Blood Banks, the American Hospital Association, the American Medical Association, the American National Red Cross, and the American Society of Clinical Pathologists. Its primary purpose: "To establish a national blood program in order to assure an adequate supply of blood and blood derivatives to the civilian and military population at all times of peace or emergency and to take all appropriate action in connection therewith."

Information brought out in the survey and directory includes the following:

1. Of the facilities listed, 1,832 administer whole blood; 1,287 administer plasma, 1,021 serum albumin, 994 packed red blood cells and 311 platelets, with many of the facilities engaging in a number of these activities.

2. Many of the institutions also are engaged in storage of other body tissues. Artery banks are maintained by 116, eye banks by 36, bone banks by 200, skin banks by 24, and mother's milk banks by 20.

3. A total of 1,325 blood banks store whole blood, record donor histories, and have as their primary purpose the recruitment of donors and complete laboratory blood processing. The directory shows whether these banks obtain less than half or more than half their blood from their own recruiting efforts and whether blood processing includes compatibility (cross-match) testing.

4. Two out of every 3 organizations listed have no reciprocity system for the exchange or re-supply of blood. Of the remaining one-third, which do participate in a national system, 470 use the American Red Cross system, 240 that of the American Association of Blood Banks, and 110 use both systems.

5. Community blood banks and Red Cross regional centers present an entirely different picture with regard to reciprocity, as shown by these data:

Reciprocity System	Community Banks	Red Cross Centers
American Association of Blood Banks	62	0
American Red Cross	0	41
Both AABB and Red Cross	19	8
None	18	0
TOTAL	99	49

The directory is the forerunner of a complete report of the activities of most organizations engaged in blood services of any kind. This forthcoming report will present the details of operations, quantities and persons serviced, practices and procedures, and other statistical data which were collected during 1957 and 1958 under a project directed by a committee of eminent physicians and scientists.

Dr. Wilson is Chairman of the Project Advisory Committee. Other members are Drs. Kenneth M. Brinkhous, Roger W. DeBusk, David N. W. Grant, James J. Griffits, Max M. Strumia, Frank G. Dickinson, and George W. Hervey.

Dr. Wilson is also Executive Vice President and Secretary of the Joint Blood Council. Other officers are: Dr. Leonard W. Larson, President; Dr. LeRoy E. Bates, Vice President; and Dr. Oscar B. Hunter, Jr., Treasurer. Other Board members are Drs. Kenneth B. Babcock, James D. Barger, Sam T. Gibson, Frank W. Konzelmann, Walter B. Martin, E. Eric Muirhead, and Mr. W. Croft Jennings.

WHAT PREPAID MEDICINE MEANS TO PHYSICIANS*

GEORGE BUGBEE

President, Health Information Foundation, New York City

I should like to begin this discussion on health insurance by saying that after a long background of administrative responsibility in the hospital field, I can understand why physicians often have an attitude of aggravation toward understanding and coping with the intricacies of a new method of financing their services. When I consider the typical obligations that my family places on our physician for the most modern medical care delivered with sympathy and understanding, I wonder how much more we can impose on an already complex assignment.

Some time ago an editorial in *Northwest Medicine* commented on health insurance and the practice of medicine. I have read this publication's editorials for some years; they are frank, outspoken, and inclined to flail around at developments that the editors believe are adversely affecting physicians. I suppose the editorials might be described as decidedly traditionalist in viewpoint and certainly nostalgic.

In the specific editorial to which I refer, it was stated, in no uncertain terms, that medical practice would never be the same because of health insurance. Here is what it said: "The changes which have occurred, and the developments now apparently inevitable, spell the end of the private practice of medicine as it is generally understood."[1]

In some respects there may be support for this position. However, while good medical care can never be marketed as a mere commodity, the need for a method of helping people to pay for medical care is so obvious, and voluntary health insurance has been so generally accepted, that, however much you may agree in your pessimistic moments with this editorial I have quoted, the issue has been decided. As a profession, you are now confronted with how this program can be developed with the least change in medical practice and the greatest amount of service to the public.

In the past twenty years, voluntary health insurance has grown until over 120 million individuals have some coverage for hospitalization and over 100 million have some insurance to assist in paying surgical fees, with a great proportion of that number also covered for some medical fees incurred during hospitalization.

This growth has several implications. The rapid enrollment of so large a portion of the public on a voluntary basis is a measure of how much the public values medical services and is interested in being able to meet the cost when such services are required. There is a consequential risk to the financial security of the family for medical costs which voluntary health insurance aims to meet. In 1957 private health care costs in this country totaled over 15 billion dollars, and of that amount approximately 4 billion was paid by the public for insurance coverage. One of the most gratifying facts shown in statistics on voluntary health insurance growth is that the degree of coverage measured in dollars paid for benefits has in recent years grown at an even more rapid rate than enrollment. In other words, contracts or policies are being written to cover a greater range of medical costs.

Administrative Problems of Voluntary Health Insurance

Voluntary health insurance, on the basis of its past record, clearly demonstrates that if administrative problems now developing can be handled, the population can be enrolled and benefits can be raised to a level where the family is given adequate security. These administrative problems are evident enough. They require that physicians and hospitals assure the public that insurance does not cost too much as a result of abusive overuse of services; that those who provide services are adequately compensated but that insurance in itself does not inflate unit charges for service, whether those charges be physicians' fees or hospital room rates. To prevent these two possibilities is a major administrative task under voluntary health insurance that imposes certain obligations on the profession. It must be conceded that these administrative mechanisms may to a degree support the editorial I have quoted.

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* Address delivered at the Opening Day Luncheon, November 24, 1958, during the 27th Annual Scientific Assembly of the Medical Society of the District of Columbia.

[1] Northwest Med., 1956, 55, 1343.

In spite of past progress it would be a mistake to assume that the job of better coverage has been done. Accomplishments in enrollment have not fully reached some of the most vulnerable groups in the population. Further, while benefits have been greatly expanded, coverage is not yet adequate to offer the security which families need and say they want. It is interesting in this regard that the fastest growing development in voluntary health insurance is very much broader coverage, as in the major medical policies. Enrollment in this category in 1957 increased about 50 per cent to a total of more than 13 million persons. Such policies cover the greatest range of medical expenses and presently offer the greatest security to families against the high-cost illness.

Research on Paying for Medical Care

The Foundation which I represent sponsors research aimed at helping to define problems and formulate their solutions in the area of how people pay for medical care and how they use it. At this point I should like to present more detail of the Foundation's work; however, in support of the points I am trying to make I will simply refer to one or two of the more consequential research projects. Through a grant made 5 years ago to the National Opinion Research Center of the University of Chicago, we supported a very detailed analysis of how people use medical care—in terms of number of visits to physicians, amount of surgery, number of hospital admissions, the percentage of the people having voluntary health insurance, how much families paid in a year for medical care and the per cent of their bills paid by insurance. Now after 5 years the same study agency is in the field to bring these statistics up to date. Results should be available within the next few months to measure progress and to evaluate present needs.

The first study, through a probability sample which can be projected in its conclusions for the population as a whole, indicated that traditional voluntary health insurance covering hospital bills and in-hospital medical fees does not provide sufficient security for some families. About 11 per cent of all families have bills totaling more than $500 in a year for the whole range of medical expenses. Although hospital costs are a consequential part of those expenses, typical and prevalent insurance does not cover a larger percentage of total costs for this high-cost segment of the population. In other words, if the average coverage is around 30 per cent of total medical expenditures, it is still only 30 per cent of the total for those with bills over $500.

As an illustration of the components of these high costs for some families, I might say that 6 per cent of the population had more than 20 physician-visits outside the hospital during the survey year. I am sure that you are conscious of the fact that for a small number of families with serious and often chronic illness, expenses for home and office medical calls, drugs and appliances can be as much beyond the range of the family budget as are costs in the hospital. Here I would like to point out that the public expects to be able to insure itself against risks that are only occasional, as they do for theft, fire and accident. Many families which in extremity can meet high bills want insurance so that family economy is not completely dislocated by such a chance. In our country, where medical care is generally available regardless of ability to pay, financial hardship is frequently greater among middle-income families in time of serious and expensive illness. These are the families that summon every personal resource to pay for needed medical care, often to the detriment of other needs, including medical care regarded as less urgent.

A second important finding of the Foundation-sponsored survey was that those with voluntary health insurance were admitted to hospitals much more often, had more visits to physicians and more surgical operations than the uninsured. Many critics might interpret this as a direct result of insurance. I personally believe that it is only one factor and a less consequential one than it is sometimes alleged to be. Our study showed that individuals with voluntary health insurance—who are generally not thereby protected against dental costs—incurred an average of $12 in dental costs as compared with $8 incurred by the uninsured. In other words, even without protection against dental expenses, the insured group spent half again as much as the uninsured. In yet another Foundation study—a survey of public opinions and attitudes toward health services—it was found that there has been no widespread complaint by the medical profession that the insured are inherent seekers of unnecessary care.

The survey of health insurance, then, set up some rather important guide lines. The two I have mentioned are, first, that the traditional type of Blue Cross-Blue Shield and insurance company group coverage, while a great step forward, does not yet give adequate security to the family with large medical costs; and, second, that the insured segment of the public uses much more medical care than the uninsured.

Responsibility of the Profession

The most serious administrative problems in voluntary health insurance facing you, as physicians, are the questions of whether with greater use of services and more adequate coverage, the public will be assured that there is not overuse or excessive charge for services. No group is better qualified to judge these questions certainly, and the public will have to find its assurance in expressions by the profession.

I believe it is safe to say that presently there are raging controversies over whether hospital costs are too great and whether too many people are being admitted to hospitals. These controversies are touched off by requests for rate increases by the Blue Cross plans which pay hospitals for service rather than by giving the subscriber a cash allowance. Under such a service program payments to hospitals must increase with hospital costs and with increased admissions. Rates to the public, accordingly, must go up as costs and use increase.

It is not my purpose here to detail this hospital controversy. I might say, however, that I don't think we have yet defined reasonable hospital use. If hospital admissions were limited to occasions when life is at stake, they could probably be decreased as much as 50 per cent. But I believe that the American public wants and is willing to pay for hospital care when ordered by the physician because it is more reassuring, safer or more comfortable; because it speeds diagnosis and treatment. I believe I could also defend a certain number of hospital admissions for the convenience of the physician—a convenience that may indeed have great significance for patients.

As for the increase in hospital costs, much has been said that scarcely needs repeating here. I wish to point out that about 70 per cent of hospital expenditures are for salaries and wages, and that I have yet to hear a criticism that hospital employees are overpaid. On the contrary, there is considerable public indignation that they are underpaid. Moreover, though I have been in touch with the continuous search for such a desirable result, I have yet to hear a proposal for reorganizing our present hospital system which promises any significant economies.

But the criticisms of overuse and high unit cost that Blue Cross and hospitals are contending with constitute only the current focus of the controversies I am talking about. These problems also confront the medical profession. The public and particularly the spokesmen for organized labor are saying that insurance leads to overtreatment and excessive fees by physicians. The fee-for-service system of medical practice is now, and will be increasingly in the future, under attack on this basis of overuse and excessive charges. The current flurry on Blue Cross rates is only a precursor.

Preserving Fee-for-service Medicine

We are at a crucial point in the development of voluntary health insurance. Many countries, such as England, for example, in an effort to solve the problems of overuse and unjustified charges have turned to systems of salary or capitation payment to physicians—methods that control physician income and also have other serious implications. If the editors of *Northwest Medicine* think that our present voluntary health insurance with the third party paying under a fee-for-service system seriously changes medical practice, what would they say of salary or capitation?

A number of arguments can be made in favor of fee-for-service medicine over systems of payment which have built-in deterrents to care. For the physician who is influenced by financial arrangements, capitation and salary continue whether he provides optimum personal care or not. Some of the public understand this, and are critical of systems in this country where the physician works on an impersonal basis under one of these two salary arrangements. Perhaps this is one reason why such plans have had the slowest enrollment in recent years. The public eventually becomes critical in terms of the degree of personal attention given to patients.

However, in spite of such arguments, the public feels that having insurance against medical fees affects the size of these fees. A natural horror also

DR. LEE HONORED BY HEART ASSOCIATION

Dr. Thomas S. Lee, dean of Washington cardiologists and a founder of the Washington Heart Association, was honored by his colleagues and the Association on the eve of his 90th birthday, December 23. Dr. Andrew J. Prandoni, President of the Association, presented Dr. Lee with 90 red roses in his home in the same room where he and 9 other physicians organized the Association 30 years ago. At the left of the roses is Dr. Wallace M. Yater, also a founder of the Heart Association. Other co-founders among the guests were Drs. John Minor and Leslie T. Gager. Dr. Lee is Professor Emeritus of Cardiology at Georgetown University School of Medicine.

exists that possibly there is overtreatment under the incentive of a fee-for-service system—a built-in incentive which certainly can affect the unethical.

In my opinion no better overall system than fee-for-service medicine has yet been devised. Yet it seems one of the most difficult concomitants to the growth of voluntary health insurance that the preservation of the fee-for-service system is only possible with great professional responsibility. One of the mechanisms established to give the public reassurance that fees are not inflated is Blue Shield, the organization which physicians have sponsored in this community. With Blue Shield the public is assured that, under specified circumstances, an established fee schedule will prevail. I question whether you have used Blue Shield to its full potential in meeting the two criticisms I mention, but certainly it is an important mechanism for this purpose.

There has been considerable heat generated in hospital-doctor relationships and in competitive efforts between the Blues and commercial insurance. It seems to me that to assure the public that voluntary health insurance can continue to work and that it is the best method of financing medical care requires coördinated action of a more substantial type than we have seen in the past. If enrollment is to grow and coverage under voluntary health insurance is to increase, physicians, hospitals, and the voluntary health insurance agencies must demonstrate to the public that the problems of overuse and excessive cost can be controlled.

These problems are not unique to hospitals, physicians, Blue Cross and Blue Shield, or the insurance companies. Therefore, I believe the time has come for these groups to coördinate and work out the necessary administrative structure to demonstrate to the public that the small percentage from their ranks who create these problems can be controlled. Without such demonstration, I am sure that pressure for government intervention in the financing and control of physicians and others in the health field will increase. We have already seen much government interest in some of these areas; if criticisms on these points become much greater, I believe government action is inevitable. And I do not make this point idly, nor can it be ignored, because such a threat seems ever-present. The voluntary system will always face such threats. Its success must be continually defended and demonstrated.

In summary, I should say that voluntary health insurance means a great deal to physicians. It is complicating their lives; it requires much more group action than there has been in the past and calls for more complicated and difficult group action. The public has accepted voluntary health insurance wholeheartedly and wants greater coverage. Enrollment and coverage are growing rapidly in a system that allows the maximum flexibility for experimentation and demonstration. But if the present system of medical practice is not to be very seriously and adversely affected in the years ahead, physicians, as key forces in the health field, must take leadership in solving the new problems created by this important development of our times.

On the Lighter Side

The D. C. Medical-Dental Bowling League reached the halfway mark of the 1958-59 duckpin season in January. The Children's team, sparked by such stellar pin-scramblers as George Resta, Gordon MacDonald and Al Kay, set the pace from the beginning of the season and have maintained their superiority. The second place team, Suburban, with their stars Andy Betz and Dick Meyer, averaging 106 and 109 respectively, has been breathing its collective, hot little breath down the necks of Children's. Sibley team #2, with Van Kinsbergen 107, and Sibley team #1, with Baiers and Ball shooting 112 and 102 averages, have made the competition for the first four spots mighty tough for the rest of the League.

The team standings with the high game, the high set, the games won and lost, and the collective team pinfall follow. Also, the individual bowlers are listed with the games rolled, the number of spares and strikes compiled by each, the individual high game and high set, and the individual averages.

Team Standings

PLACE	TEAM	HG	HS	W	L	PINS
1	Children's	561	1622	31	17	24,244
2	Suburban	616	1634	30	18	24,352
3	Sibley #2	530	1527	30	18	23,359
4	Sibley #1	568	1605	29	19	24,112
5	Columbia	552	1552	28	20	23,202
6	Doctors	546	1491	28	20	22,753
7	Casualty	586	1700	27	21	24,439
8	Gamma	518	1480	26	22	22,349
9	Garfield	524	1488	24	24	22,941
10	Emergency	539	1509	23	25	22,699
11	Zeta	503	1443	23	25	21,582
12	Beta	537	1508	21	27	23,258
13	Alpha	513	1482	20	28	22,284
14	Providence	554	1545	19	29	23,033
15	Epsilon	473	1396	14	34	16,983
16	Delta	510	1432	11	37	21,269

Individual Records

TEAM	G	SP	ST	HG	HS	AVG.
Alpha						
Kogan	45	50	11	120	315	94
Taylor	45	54	15	116	311	94
Greeves	45	39	13	120	291	89
Bouchard	45	48	9	125	321	93
Cercell	42	52	10	123	323	94
Coombs	9	8	4	114	304	96
Casualty						
Dibbs	48	31	10	125	289	82
Price	48	92	24	139	348	105
Eig	47	87	28	152	375	107
Duffy	47	113	15	154	391	109
Hageage	45	86	17	136	374	105
Clark	3	2	1	102	286	104
Columbia						
Kadan	43	73	11	121	354	101
C. Reeves	46	78	20	121	349	103
McDonald	39	56	14	133	341	97
Sealfon	38	35	12	126	285	91
Hodge	37	37	18	128	323	95
Connolly	35	41	7	115	302	93
Doctors						
Perkins	45	50	11	120	314	93
Thomas	45	63	16	148	356	94
Carter	40	35	10	128	304	89
Brown	40	54	13	119	328	98
Golden	36	49	14	149	302	95
Gruver	30	36	10	114	313	92
Lloyd	3	2	1	96	276	99
Silverman	3	4	0	100	283	94
Epsilon						
P. Morrison	33	28	7	107	295	84
Woodland	36	32	7	110	297	87
Photakis	30	48	9	131	332	98
Eff	24	8	3	111	268	79
McCartney	3	1	0	79	219	73
Keren	3	2	0	93	259	86
Cullen	3	3	2	91	263	87
Beta						
Castro	42	59	10	122	308	96
Douglas	48	70	10	120	326	97
Hopkins	48	71	18	137	342	98
Berman	42	53	15	120	316	95
Hollis	39	67	11	131	329	99

Team	C	Sp	St	HG	HS	Avg.
Children's						
Bacon	44	40	15	123	321	92
Kay	48	78	18	150	363	101
MacDonald	45	89	25	130	365	107
Resta	42	74	22	147	369	106
Kessler	39	61	20	128	343	102
Cook	18	21	5	132	294	93
Delta						
Rabin	45	41	9	120	304	90
Bowie	42	38	9	109	278	88
Conlon	39	25	6	105	271	83
Keaveny	36	32	11	118	312	91
Crowley	33	27	4	109	283	88
Emergency						
Brawner	44	66	18	145	355	98
Henesy	45	64	11	131	321	97
Hawfield	41	60	14	150	357	99
Schumacher	35	38	10	123	304	93
Young	30	24	13	111	281	89
P. Dorman	18	15	3	108	286	87
McClintock	3	1	2	90	266	88
Gamma						
Salcetti	42	51	10	114	310	92
Fleming	45	63	14	118	329	95
Ferrigno	48	82	14	121	337	98
Mahar	47	46	9	116	302	87
LeBlanc	36	51	5	117	316	95
Garfield						
Klein	47	48	12	112	296	88
Cosimano	48	54	13	128	307	94
Cushard	48	73	22	124	332	101
Oberman	47	66	8	116	324	96
Peizer	30	52	11	124	326	98
Grubb	8	7	1	117	301	93
Richtmeyer	3	6	0	108	300	102
Sibley #1						
Belair	42	58	13	118	309	96
Baiers	48	120	24	145	383	112
Richardson	45	69	14	123	333	98
Finnegan	45	53	7	121	310	95
Ball	42	55	24	143	356	102
Schilke	18	15	3	109	296	91

Team	G	Sp	St	HG	HS	Avg.
Suburban						
Betz	48	96	18	141	351	106
Ottman	48	73	16	125	322	99
Meyer	48	105	28	162	376	109
Andrews	47	52	18	127	320	96
Porton	27	43	9	125	338	97
Gable	18	24	3	124	307	94
Providence						
Cashman	45	53	14	119	334	95
Rutstein	45	86	16	139	342	105
Heiges	42	54	13	119	303	93
Crain	39	57	17	134	333	101
Kane	36	29	7	101	285	87
O'Keefe	9	5	0	91	229	74
Sibley #2						
Morse	15	22	6	118	337	98
Van Kinsbergen	48	96	21	144	365	107
Hand	46	63	13	117	315	97
McLain	42	49	16	124	333	97
Newman	41	55	8	123	319	95
Kirchner	36	38	4	107	315	91
Weingarten	3	1	0	83	225	84
Zeta						
Brown	48	35	9	108	302	86
Keelan	45	43	14	127	301	90
Markwood	42	54	14	120	343	95
Mulreany	42	46	10	113	313	92
Johnson	12	20	4	126	313	97
Holahan	27	21	4	112	272	81
SUBSTITUTES						
Levin	20	42	11	128	358	108
Kirkpatrick	15	16	2	106	294	92
Wolf	12	17	4	107	297	97
Stanton	6	1	1	84	235	74
Billingsley	3	4	0	102	282	94

J. Earl Kadan, M.D.

News and Personals

MEETINGS

The Hippocrates-Galen Society will meet, March 5, at the Kennedy-Warren Hotel, 6:30 p.m., for dinner and program. Essayist will be Dr. Herbert E. Martyn, Jr. Dr. Robert J. Coffey will give the case report.

A Postgraduate Course in Ophthalmic Pathology will convene at the Armed Forces Institute of Pathology, March 9–13, 1959. The course will consist of a basic and comprehensive survey of pathologic conditions affecting the eye and will be presented by lectures, demonstrations, and the study of microscopic slides.

Applications from Medical Department officers on active or inactive duty will be forwarded through channels to the Chief, Bureau of Medicine and Surgery, Department of the Navy, Washington 25, D. C.

The Section on Ophthalmology of the Medical Society of the District of Columbia will meet, March 16, 1959, at 6 p.m., for cocktails and dinner at the Kennedy-Warren. The guest speaker, Dr. John M. McLean, Professor of Clinical Surgery, Cornell University Medical College, New York, will give "Some Observations on Intraocular Pressure."

Sibley Memorial Hospital will hold a **Seminar for Ministers and Physicians** devoted to the theme, "Christian Resources for the Handling of Despair," March 16. Addresses will be given by Dr. William H. Whiteley, of Jefferson Medical College, Philadelphia; the Reverend John Soleau, of the Virginia Theological Seminary, Alexandria; Dr. Andrew S. Watson, Associate Professor of Psychiatry and Law, the University of Pennsylvania Law School, Philadelphia; and Chaplain Keith W. Keidel, Inglewood Hospital, Inglewood, New Jersey.

The Seminar will begin at 9:30 a.m. in Rust Hall, 1150 North Capitol Street, adjacent to the Hospital, and will conclude at 3 p.m. Luncheon will be served through the courtesy of the Hospital.

Sibley Alumni Association announces that its **Second Annual Scientific Symposium** will be held, May 14. Plans are to discuss shock—the relationship of blood volume, the nervous system, the adrenals, and the kidney. There will also be a clinicopathologic conference, which once again will be discussed by Dr. Theodore E. Woodward, Professor of Medicine at the University of Maryland. Dr. Richard F. Manegold, Director of Medical Education at Sibley, is planning the program.

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia met December 15, 1958. Dr. Herbert P. Ramsey, who presided at his last meeting as Chairman of the Board, received a gift from the Board members in appreciation for the splendid manner in which he had presided over its meetings.

Dr. W. LeRoy Dunn submitted for tentative approval his committee appointments for 1959. He was authorized to make such changes as necessary before submitting them for final confirmation at the January meeting of the Board, when he would be in office as President.

The Board approved the project of sending medical journals to physicians in underdeveloped countries, as set forth by Dr. Stanley J. Talpers, an Active member of the Medical Society, in an editorial which appeared in the January, 1959 issue of the MEDICAL ANNALS.

President Watts submitted the appointment of

THE WOMAN'S AUXILIARY ART CLASS

The library at the D. C. Medical Society has served as studio for the Woman's Auxiliary Art Class weekly during the fall months. Standing in front of the fireplace getting some special assistance from the instructor, Mariano Eckert, who is on the staff of The Corcoran School of Art, is Mrs. Morris W. Bush. The two women just behind her are Mrs. Azad J. Vosger (left) and Mrs. C. Richard Gilbert. Closest to the camera are (left to right) Mrs. William K. Billingsley, Mrs. Alec A. Preece, Mrs. Joseph A. Bailey, Mrs. Roger S. Williams, and Mrs. M. Noel Stow, President of the Auxiliary. Standing at the rear is Mrs. Howard A. Donald. The Art Class is one of many recreational projects sponsored by the Auxiliary.

Dr. Harry S. Douglas and Dr. Josephine Renshaw to the Advisory Committee to the League of Nursing. The appointments were confirmed.

Dr. Frederick O. Coe, who has represented the Society as a Vice President of the Washington Academy of Sciences for many years, was nominated to succeed himself in that office.

The Secretary announced that Dr. A. Clagett Gray had submitted his resignation from the Hill-Burton Advisory Council after having represented the Society on the Council since its inception. His resignation was accepted with regret.

In view of the AMA's Clinical Session which is scheduled to be held in Washington, November 29 - December 2, 1960, the Board voted to cancel the Society's 1960 Annual Scientific Assembly.

The American College of Gastroenterology announces the establishment of the **Henry G. Rudner, Sr. Award Contest** for the best unpublished paper in research in gastroenterology or an allied field. This award will honor Dr. Henry G. Rudner, Sr., of Memphis, Tennessee, Chairman of the Research Committee of the American College of Gastroenterology and former chairman of the Board of Governors.

The contest is open to physician-graduates of a recognized school or university. The award consists of $750, plus an additional $250 for traveling expenses to present the paper at the 24th Annual Convention of the College, to be held in Los Angeles, Calif., in September 1959. All unpublished entries must be received no later than June 1, 1959 and should be addressed to The Research Committee, ACG, 33 West 60th Street, New York 23, N. Y.

The Division of Obstetrics and Gynecology of the International College of Surgeons announces its second annual competition for two awards, first, $500, and second, $300, for the best manuscripts on a phase of obstetrics and gynecology. The contest is limited to interns, residents, graduate students in obstetrics and gynecology, and to physicians engaged in the practice or teaching of the specialty. The deadline for manuscripts is June 1, 1959. For information on contest rules, write to Dr. Harvey A. Gollin, Secretary of the Prize Committee, 55 East Washington Street, Chicago 2, Illinois.

The National Institutes of Health has issued a booklet entitled "Current Clinical Studies and Patient Referral Procedures" which describes briefly the diagnostic requirements, purposes and methods of those studies expected to be most active during the current year at the Clinical Center. Physicians desiring to receive a copy of the publication should write to Dr. Jack Masur, Director of the Clinical Center, NIH, Bethesda 14, Maryland.

Dr. Ralph G. Beachley, Director of Public Health, Arlington County, Virginia, advises that the **Arling-**

ton County Health Department has again been approved by the Council on Medical Education and Hospitals of the AMA for an additional two years of residency training in health. This department is one of 39 in the Nation which is so designated and provides training for medical health officers wishing to enter the field of public health and qualify for the American Board of Preventive Medicine and Public Health.

Dr. Marvin E. Perkins, Chief of the Psychiatric Services Division of the District Health Department, will head the new **Bureau of Mental Health** recently created by the District Commissioners. Programs concerning adult mental health, child guidance, rehabilitation of alcoholics, legal psychiatric service to the courts, and public school psychiatric services will be assigned to the new Bureau.

Dr. Joseph Karlton Owen has been appointed by the District Commissioners to fill the post of **Administrator of the District General Hospital,** which has been vacant since the retirement of Dr. Philip A. E. Stebbing in February 1958. Mr. Charles H. Beal, Acting Superintendent for the past year, has announced that he would resign at the end of February.

Dr. Owen holds a B.S. degree in business administration from the Virginia Polytechnic Institute, a master's degree in hospital administration from Columbia University, and is one of five men in the Nation to hold a doctor of philosophy degree in hospital administration. He received the latter degree from the State University of Iowa. He served overseas in Europe during World War II and has held numerous posts with the Virginia State Health Department, the Medical College of Virginia, and William and Mary College.

Dr. Arthur Kemp, Professor of Economics at Claremont Men's College and Claremont Graduate School, Claremont, Calif., took over his new duties, January 2, as **Director of the AMA Bureau of Economic Research.** He succeeds Dr. Frank G. Dickinson, who has retired after serving in the position since 1946.

Dr. Kemp received his Ph.D. degree from New York University in 1949. He taught economics for many years, at New York University from 1946 to 1953, and at Claremont from 1953 to 1959.

Dr. Albert H. Holland, Jr., has resigned as Medical Director and Chief Medical Officer of the Food and Drug Administration, effective in January. He has been elected Executive Vice President and a member of the Board of Directors of Cortez F. Enloe, Inc., New York medical advertising agency. Dr. Holland will be the Chief Operating Officer of the agency.

Dr. Holland entered the pharmaceutical industry in 1950 to become Medical Director of Armour Laboratories in Chicago. He resigned this post in 1954 to accept the medical directorship of the U. S. Food and Drug Administration.

Dr. Murray Grant, who has served as Assistant County Health Officer for **Prince Georges County,** succeeded to the office of **Health Officer,** February 1, with the retirement from that office of Dr. Thomas S. Englar.

Dr. Grant, a native of London, received his medical degree in 1949 from a medical school affiliated with the University of London. After coming to Canada, he received his degree in public health from the University of Toronto. He came to Prince Georges County as Assistant Health Officer in May, 1957.

Georgetown University School of Medicine has raised $200,000.00 to match a grant of the same amount by the Commonwealth Fund. This goal was met, December 31, according to an announcement from the University President, the Very Reverend Edward B. Bunn, S.J., by $90,000 in cash gifts from alumni and faculty, $40,000 in alumni pledges, one special gift of $30,000, and $40,000 in cash gifts from non-alumni.

Woodley House—A Halfway House, at 2711 Connecticut Avenue, N.W., has been opened as a unique demonstration project. Conducted in cooperation with institutions, agencies, and therapists in the Washington area, it will provide information on ways in which people who have psychological disorders can benefit from companionship and informal living in a small residential club limited to a selected group of about 10 people. Residents will be given the opportunity to live and work in the community with a balance of freedom from institutionalization and with assistance in planning daily activities through a psychiatrically oriented staff.

The Reverend Ernest Bruder, Director of Protestant Chaplain Activities at St. Elizabeths Hospital, is President of the Board of Trustees. Dr. Robert A. Cohen, Director of Clinical Investigations, National Institute of Mental Health, is Vice President, and Dr. Marvin E. Perkins, Chief, Bureau of Mental Health, District of Columbia Department of Public Health, is a member of the Board of Trustees.

Information regarding the new project may be secured by calling Miss Joan Doniger, Director, at Columbia 5-1773, or Mrs. Thais Fisher, Secretary of the Board, Hemlock 4-0541.

The Arlington County Medical Society has elected the following officers for 1959:

Dr. Robert L. Norment, *President-elect*; Dr. Michael A. Puzak, *Vice President*; Dr. Howard O. Mott, *Secretary*; and Dr. James H. Stallings, Jr., *Treasurer*.

Dr. Stephen J. Sheehy, Jr., the new President of the Society, succeeds Dr. Thomas A. McGavin. The latter was made a member of the Society's Executive Board. Drs. Sheehy and Stallings are Associate members of the District Medical Society; Dr. Norment is an Affiliate member.

The District of Columbia Pharmaceutical Association announces the appointment of Miss M. Eileen Brooks as Executive Secretary of the Association and Editor of the journal, *The National Capital Pharmacist*. Executive offices are in Suite 5, 145 Kennedy Street, N.W., Washington 11, D. C.

The National Headquarters of the American Hearing Society are now located at 919 18th Street, N.W. The headquarters' move during the Christmas holidays was necessitated by the sale of the Hurley Wright Building where the Society was previously located.

The Hearst Corporation is issuing a new monthly publication, *New Medical Materia for Diagnosis, Prevention, Treatment*, beginning January 1959. The new publication will assemble in one place the vital, scientific, documented facts concerning the new drugs, pharmaceuticals, and medical devices put on the market in recent months. Each issue will be set up for quick use by an indications index to new therapies, a list of the new medical products, and significant trends for each month. In January the trends are presented entirely by graphs, charts and tables. The publishing office is located at 250 West 55th Street, New York 19, New York.

PERSONALS

Dr. Allen S. Cross was detailed to the Orlando Air Force Base, Florida, January 3–7, 1959, to serve as a medical consultant for Headquarters United States Air Force and to act as a technical advisor for an Air Force training film depicting mouth-to-mouth resuscitation technics. Dr. Cross, who developed his own instrument for mouth-to-mouth resuscitation, has received recognition locally and nationally for his contribution to this new method in life-saving technic.

Dr. James E. Chapman has been promoted to the rank of Lieutenant Colonel, Medical Corps, District of Columbia National Guard and the Army of the United States. Dr. Chapman is presently Deputy Hospital Commander of the 115th Evacuation Hospital of the D. C. National Guard. He has been a commissioned officer of the Guard since 1949.

Dr. Wilfred R. Ehrmantraut, Medical Director of the Children's Center at Laurel, Maryland, **and Dr. Reginald S. Lourie,** Director of Children's Hospital, Department of Psychiatry, have been named to a committee to study problems of the District Juvenile Court. Appointed by Chief Judge E. Barrett Prettyman, of the United States Court of Appeals, the committee consists of 20 members. It is headed by Attorney A. Murray Preston in his capacity as head of the District's Judicial Conference.

The committee will work with the District Law Enforcement Council, the Criminal Justice Association, and others in studying needs of Juvenile Court.

Dr. Charles A. Hufnagel, Professor of Cardiovascular Surgery at Georgetown University School of Medicine, **and Dr. Howard T. Karsner,** Medical

Research Advisor to the Surgeon General of the Navy, were named Fellows of the New York Academy of Sciences at the annual meeting of the Academy, December 4. Election to fellowship in the Academy is conferred upon a limited number of members who, in the estimation of the Council, have done outstanding work toward the advancement of science.

Dr. James Q. Gant, Washington dermatologist, is the new President of the International Lunar Society, an organization which was formed to correlate the work of lunar observers all over the world. He succeeds the founder and first president, Dr. H. P. Wilkins, of Bexleyheath, Kent, England.

Dr. Gant's drawings and sketches of the moon for more than 30 years, his hobby since the age of 14 years, have won him general recognition. A few years ago the crater known as Archimedes A was renamed Gant in his honor.

During the December meeting of the American Association for the Advancement of Science, at the Shoreham Hotel, he cited the major contributions of a number of amateur astronomers, past and present, before a sectional meeting on astronomy.

In addition to his private practice Dr. Gant is a faculty member of George Washington University School of Medicine, with title of Assistant Clinical Professor of Dermatology and Syphilology.

Dr. Theodore C. C. Fong, formerly Chief of the Geriatric Psychiatric Service at St. Elizabeths Hospital, which position he left to become Clinical Director of Male and Geriatric Services at Cragmont, North Madison, Indiana, was appointed Assistant Superintendent of the institution, effective January 26.

Dr. James G. Shea, Instructor in Medicine, Georgetown University School of Medicine, received the additional appointment, Instructor in Pharmacology, September 1.

Dr. Lawrence J. Thomas was reëlected Treasurer of Phi Lambda Kappa, medical professional fraternity, for 1959. He was also named financial secretary of the Medical Students' Aid Society, a fraternity foundation to assist medical students with loans, scholarships, awards, etc.

PHYSICIAN-ASTRONOMER

Dr. James Q. Gant, looking through his 14-inch Cassegranian Reflector (Fecker) at his farm in Boyds, Maryland, where he spends weekends at his personal observatory.

Dr. John A. Reed was one of 5 graduates of the old Central High School who were honored by the alumni at special ceremonies at the Shoreham Hotel, December 26. Central High School ceased to exist in 1950, but annual alumni reunions have continued at which outstanding graduates are honored and awarded certificates for achievement in their fields of interest.

A number of the **faculty members of Georgetown University School of Medicine** have been honored by election to membership in various scientific organizations. They include:

Dr. John J. Canary, to the American Diabetes Association.

Dr. Bruce I. Shnider, to the American Federation for Clinical Research.

Drs. James E. Fitzgerald and Lawrence S. Lilienfield, to Associate fellowship in the American College of Physicians.

Dr. Edward D. Freis was elected Chairman of the Research Committee, Washington Heart Association, and a member of the Study Section of the National Heart Institute. He was also recently elected Vice Chairman and Chairman-elect of the Council on High Blood Pressure Research of the American Heart Association.

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
October 18	Dr. Carolyn H. S. Pincock	Adolescent Sex Education	Lutheran Women's Missionary League, Baltimore, Md.
December 15–16	Dr. Julius S. Piver	Cancer in Women	University of Maryland Freshman Women
January 7	Dr. Sidney Berman	The Role of the Children in the Family	North Shore Hospital Lecture Series, Chicago, Ill.
January 13	Dr. Robert P. Odenwald	Sex Education of Children	Bancroft Parent-Teachers Association
January 14	Dr. John H. Gilligan Dr. S. Ross Taggart	Glaucoma	Our Town-Art Lamb Show, WRC-TV
January 15	Dr. John R. Cavanagh	Psychiatry and Mental Health	Charles Carroll Forum
January 18	Dr. Julius S. Schreiber	Dealing with Emotional Conflict in Married and Family Life	B'Nai Israel Congregation
January 21	Dr. John R. Pate	Prevention of Poliomyelitis	Our Town-Art Lamb Show, WRC-TV
February 4	Dr. Josephine J. Buchanan	Rehabilitation of a Stroke Victim	Our Town-Art Lamb Show, WRC-TV

Dr. Frank John Schaffer, of the Veterans Administration Central Office in Washington, an Associate member of the Medical Society, was one of 28 VA physicians elected to fellowship in the American College of Physicians at its most recent meeting.

Dr. Thomas F. Collins, Chairman of the Executive Committee of the Medical Staff at Providence Hospital and Chief of the Medical Staff at Carroll Manor, was one of 59 persons of the Archdiocese of Washington recently honored by Pope John XXIII and one of 12 to be named Knights of St. Gregory, an order established by Pope Gregory XVI in 1831. Dr. Collins was cited also for his services to the residents of the home of the Little Sisters of the Poor and of the Sacred Heart home for the aged in Hyattsville.

Dr. C. Willard Camalier, Sr., has assumed full-time duties as Director of the Washington Office of the American Dental Association at 806 Connecticut Avenue, N.W. He is a Past President of the Association and formerly Assistant Secretary.

CORRESPONDENCE

WASHINGTON, D. C., December 16, 1958

TO THE EDITOR:

I am writing this letter to call to your attention and the attention of all the hospitals in the area a repeated oversight which has been a source of considerable annoyance and not a little confusion to me in the past few years.

As you know, in the Greater Washington community, there are about 30 hospitals. These hospitals are staffed in many instances by men who hold similar appointments in a number of these hospitals. Most, if not all, of these men are anxious to be informed of the goings-on in these various hospitals and to attend as many of the meetings as humanly possible. However, a considerable number of the institutions send out their notices of meetings or letters of information without any letterhead, either on the postal card or even on the mimeographed letter. At times, of course, the postmark may offer a clue as to just which hospital might be doing the writing, but just as often the cards are posted in Washington, which does not help much.

It is my hope that you will lend your good offices to the publication of my complaint so that these hospitals will emerge from this annoying anonymity.

JONATHAN M. WILLIAMS, M.D.

MEMBERSHIP

The following applicants for membership will be voted on at the meeting of the Executive Board, March 23, 1959.

For Active Membership

William G. Ballinger, Western Reserve University—1952
Neville K. Connolly, Harvard University—1944
Randolph Adams Frank, Vanderbilt University—1948
Richard Henson Irving, Howard University—1935
Ernest Wellman Lowe, Boston University—1953
Thomas W. Mattingly, Georgetown University—1930
Robert J. McCarthy, George Washington University—1946
Robert Ostrove, Chicago Medical School—1950
Julian Clyde Perry, Jr., Howard University—1954
Roy E. Ritts, Jr., George Washington University—1951
Leslie E. Sanders, George Washington University—1954
Mary F. Watt, Johns Hopkins University—1950

For Associate Membership

Sydney Green, Guy's Hospital Medical School, University of London (England)—1938
Yu Ming Hu, St. John's University (China)—1944
Joachim A. K. Kluger, Julius Maximilians University (Germany)—1951
David Lenarduzzi, George Washington University—1951
Peter C. Luchsinger, Zurich University (Switzerland)—1952
Paul A. Ryan, Georgetown University—1946
Timothy J. Tehan, Georgetown University—1951

For Resident-Intern Membership

Howard G. McQuarrie, George Washington University—1955
Alvin Szojohet, Georgetown University—1958
Herbert Stelwyn Gates, Jr., George Washington University—1958

Recent changes in membership status:

Active to Associate

William H. Clements
Elizabeth H. Hill
Theodore C. C. Fong
Emmett P. Madigan
Benjamin Naiman
Mauris M. Platkin
Anna Tulman-Rand

Active to Resident-Intern

Ralph J. Cole
Sylvan A. Steiner

Affiliate to Associate

Marvin L. Kolkin

Associate to Affiliate

John P. Haberlin

Resigned

Active

Daniel Blain
Edwin Davis, Jr.
Frederick D. Drew
Joseph K. Niswonger
Max G. Sherer

Associate

John Colen
Martin B. Hiden
Louis R. Lang
Roll H. Markwith
Frederick D. Mott
Chester R. Smith
Joseph W. Still
John A. Swartwout
G. Dent Townshend
Hyman J. Zimmerman

MERVIN WILBUR GLOVER, JR., M.D.
(1907–1959)

Dr. Mervin Wilbur Glover, Associate member of the Medical Society of the District of Columbia, died, January 9, 1959, in his office at 3801 North Fairfax Drive, Arlington, Virginia. He resided at 4721 North 36th Street, Arlington.

Dr. Glover was born, January 20, 1907, in Sitka, Alaska, where his father, Dr. Mervin Wilbur Glover, Sr., was a physician employed by the Public Health Service. He came to Washington as a boy and attended old Central High School. After graduating from George Washington University School of Medicine in 1932, he was intern and resident physician, a year each, at George Washington University Hospital. He began practice in Washington in 1935.

In 1939 Dr. Glover opened his office in Arlington. With the advent of World War II he served in the Medical Branch of the Army Air Corps and was discharged in 1943 with the rank of Captain.

Dr. Glover transferred from Active to Associate membership in the District Medical Society in 1946. He was a member of the American Medical Association and the Medical Society of Virginia. He also held membership in the Washington Golf and Country Club.

Surviving him are his wife, Mrs. June Waring Glover, and three daughters, Mary, a student at the Medical College of Virginia in Richmond, and Nancy and Anne, living at home. He leaves two brothers, George F. Glover, of Washington, and W. Barron Glover, of Haywood, Va.

Hyperuricemia Following Nitrogen Mustard—Winkler

(*Continued from page 78*)

BIBLIOGRAPHY

1. Gold, G. L., and Fritz, R. D.: Hyperuricemia associated with treatment of acute leukemia. Ann. Int. Med., 1957, **47**, 428.
2. Hickling, R. A.: Leukemia and related conditions and blood-uric-acid. Lancet, 1958, **1**, 175.
3. Watkin, D. M., and Silver, R. T.: Nitrogen, mineral, uric acid and basal metabolism studies in case of adult acute leukemia with extensive osteolytic bone disease. Am. J. Med., 1958, **24**, 638.

Transverse Vaginal Septum—Rogers

(*Continued from page 81*)

that the uniformly successful results obtained in the cases presented have been due in large measure to the proper use of the vaginal dilator postoperatively to prevent excessive scar formation and cicatricial contractures.

BIBLIOGRAPHY

1. Novak, E., and Novak, E. R.: Textbook of Gynecology, 5th ed. Baltimore: Williams & Wilkins, 1956.
2. Dannreuther, W. T.: Congenital vaginal occlusion of cervix. Am. J. Obst. & Gynec., 1944, **47**, 826.
3. Bowman, J. A., Jr., and Scott, R. B.: Transverse vaginal septum; report of 4 cases. Obst. & Gynec., 1954, **3**, 441.

Thrombocytopenia Following Phenindione—Farwell

(*Continued from page 82*)

A sample of the patient's serum was tested by the platelet agglutination method, and the sensitivity was positively related to Hedulin by Dr. Ancel Blaustein.

Serial electrocardiograms showed a healing pattern of the large anterior myocardial infarction but no acute damage in February, 1958.

Summary

A report of thrombocytopenia from phenindione (Hedulin) sensitivity is offered to warn of a dangerous possibility with this drug.

Report of Delegates to AMA Clinical Session

(*Continued from page 97*)

wood Ball, of Richmond, Va., Vice President of the Association, has been appointed to fill the vacancy until June 1959 but will not be a candidate to succeed himself.

The following places and dates have been selected for the Annual and Clinical meetings:

Annual Meetings

Atlantic City, N. J., June 8–12, 1959
Miami Beach, Fla., June 13–17, 1960
New York, N. Y., June 19–23, 1961

Clinical Meetings

Dallas, Texas, Dec. 1–4, 1959
Washington, D. C., Nov. 29–Dec. 2, 1960
Denver, Colo., Nov. 28–Dec. 1, 1961

Of interest to our members may be the fact that your President-elect, Dr. Victor R. Alfaro, has held preliminary discussions with the various Bureaus of the Association regarding plans for the 1960 Clinical Session, which will be held while he is President of our Society.

Respectfully submitted,
Raymond T. Holden, M.D., *Delegate*
Victor R. Alfaro, M.D., *Delegate*
Theodore Wiprud, *Secretary*

Health Protection for Dairy Workers

(*Continued from page 98*)

The $5,000 Major Medical Expense benefit is in addition to the Basic Coverage and is applicable to "covered" charges incurred in or out of the hospital, with or without surgery, after a deductible of $75 has been satisfied. The Plan will then pay 80 per cent of all additional "covered" expenses up to $5,000 for each illness.

The Milk Drivers' and Dairy Employees' Social Insurance Fund is underwriting a $4,500 death benefit for each member.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA
1959

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W. LeRoy Dunn, *President*

Victor R. Alfaro, *President-elect*
Edward W. Nicklas, *First Vice President*
Fofo Mezitis, *Second Vice President*
Mr. Theodore Wiprud, *Secretary-Treasurer*

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W. Ross Morris, *term expires 1960*
Milton M. Greenberg, *term expires 1961*
James W. Watts, *term expires 1962*

Ex Officio

W. LeRoy Dunn
Raymond T. Holden
Victor R. Alfaro
Mr. Theodore Wiprud, *Secretary*

BOARD OF CREDENTIALS

O. Hugh Fulcher, *Chairman, term expires 1959*
W. Robert Perkins, Jr., *term expires 1960*
Paul R. Wilner, *term expires 1961*

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American Medical Association

Raymond T. Holden
Ralph M. Caulk
Herbert S. Gates, *Alternate*
Karl C. Corley, *Alternate*

LEGAL COUNSEL

Warren E. Magee

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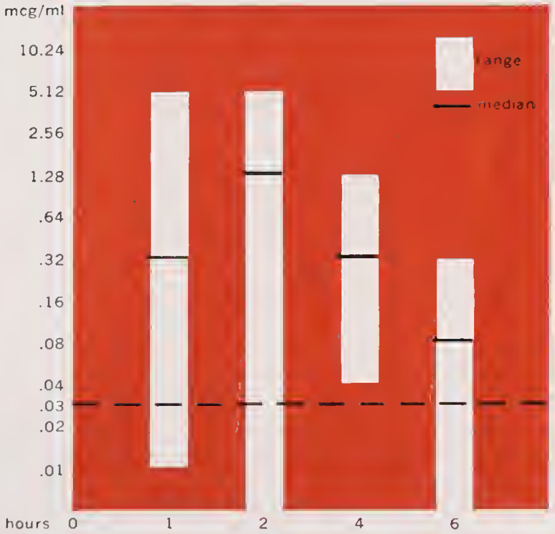

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Book Reviews

Callander's Surgical Anatomy, 4th ed. Barry J. Anson, M. A., Ph.D. (Med. Sc.), and Walter G. Maddock, M.S., M.D., F.A.C.S. Price, $21.00. Pp. 1157, with 1047 illustrations. Philadelphia: Saunders, 1958.

This excellent text, whose special function is to explain the rationale rather than the detailed steps of surgery, presents in a clear, concise fashion the anatomy involved in the various surgical conditions of the human body. The authors have taken advantage of the recent literature and published atlases of anatomy and have incorporated the pertinent data in this well illustrated volume. I found this text thoroughly readable because the format has been so well thought out. Even the index is clearly tabulated, with bold type used to signify special sections of the book as well as the pages in which illustrations are present. This is especially helpful for quick reference.

The content of the book is very complete. Part 1 is devoted entirely to the head, with chapters on the scalp, cranium, meninges and brain, the special senses, the mouth, buccal cavity, tonsillar and pharyngeal regions. Surgery of the salivary gland tumors is well illustrated. Part 2 is devoted entirely to the neck, with chapters on the various fascial layers and the special regions of the neck. Radical neck dissection is well described. Part 3 covers the thoracic regions and gives the various surgical considerations of these areas. Part 4 includes the abdomen, the surgical conditions of which are of special interest to the abdominal surgeon. Pediatric abnormalities, as repair of omphalocele, are included. Surgical considerations of the gastrointestinal tract and contained viscera are all discussed and illustrated. The remaining parts are devoted to the surgical considerations of the pelvis, perineum, and the upper and lower extremities.

The reviewer found especially interesting the very full account of the anatomy and physiology of the gallbladder as supplied by Dr. Edward A. Boyden. Also new in this edition is the text on applied anatomy of the scalp, cranium, brain and meninges composed by Dr. Nicholas Wetzel.

This volume should be a required reference book for every medical student, hospital resident, and intern, and should be in the library of every practicing surgeon. The neurosurgeon, chest surgeon, orthopedist, gynecologist, plastic surgeon, oncologist and general surgeon all will find this classic book of anatomy of inestimable value in their daily practice of surgery. The reviewer found it a distinct pleasure to have been afforded the opportunity of reviewing this edition, the previous editions of which have been a part of his library since graduation from medical school.

Milton L. Goldman, M.D.

How to Live with Diabetes. Henry Dolger, M.D., and Bernard Seeman. Price, $3.50. Pp. 192. New York: Norton, 1958.

A well recommended book for the diabetic, his family and those interested in diabetes. Primarily written for the diabetic patient, it leaves out the clinical and medical therapeutic approach and makes no effort to show the diabetic how to treat the disease on his own. The authors give logical reasons for each measure in the treatment of this problem. The chapters are written in clear and understandable lay language. They stress the person with diabetes rather than the ailment itself and answer the most frequent questions uppermost in the minds of the diabetic and his family related to problems of growing up, work, marriage, sex, aging, and means of adjusting to the emotional demands of the disease. The diabetic receives the fullest understanding of his ailment, the medical principles underlying its management, the problems it imposes on him and his family, and, most important of all, how to meet these problems.

Altogether the function of the book is to help the diabetic live with his disease; therefore, this book is a must on the diabetic reading list.

William Kurstin, M.D.

Physical Examination of the Surgical Patient, 2nd ed. J. Englebert Dunphy, M.D., F.A.C.S., and Thomas W. Botsford, M.D., F.A.C.S. Price, $8.00. Pp. 375, with 203 figures. Philadelphia: Saunders, 1958.

This is an excellent text to supply the needs of students, interns, residents and instructors in the art of surgical examination. The book is divided into 2 parts, the first of which is entitled "The Elective Examination" and covers the routines that should be carried out in examining the various surgical divisions of the body. A second part, "The Emergency Examination," includes the general principles in examination of the injured patient. In both divisions the particular region under discussion is taken up in detail. The addition of new chapters in this second edition on cancer detection and history-taking, and new notations made in the examination of head and neck and peripheral vascular disorders increase its value over the first edition.

The illustrations are composed largely of drawings. There are also photographs and occasional roentgenograms. They have been well chosen and well produced.

While the book deals largely with the technic of examination in certain instances, the disease process, pathology and physiology involved are discussed. This gives meaning to the signs encountered in the physical examination.

It is easily read, well written, informative, and the authors are to be congratulated on an excellent text.

S. J. Cosimano, Jr., M.D.

(Continued on page 46)

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*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.

Book Reviews

(*Continued from page 40*)

Emergency Treatment and Management, 2nd ed. Thos. Flint, Jr., M.D. Price, $8.00. Pp. 539. Philadelphia: Saunders, 1958.

This text is concerned with emergency cases requiring action and cases which also have medicolegal aspects. Mention is made of procedures without any detailed accounts of technics. The importance of adequate medical care is stressed, including first aid procedures and surgical and medical care in acute conditions. Treatment is described from the initial examination to the final disposition of the case. The section on acute poisoning and pediatric emergencies includes the more recent uses of fungicides and insecticides and similar toxic elements. It mentions the "poison treatment centers" recently introduced into general hospitals.

The section on medicolegal problems deals with the various protective measures which the attending physician should adopt in order to avoid possible negligence claims. This section deals with operative and treatment permits, the photographing of patients, the release of information, and the release from responsibility. Abandonment of the patient is adequately dealt with in this chapter. This section also deals with court testimony and "the expert witness." It discusses the malpractice situation and sums up several measures for forestalling such claims. The obtaining of competent consultation in problem cases is recommended.

This text should prove a help to those who are concerned with medical and traumatic emergencies and acute conditions and should prove valuable to those seeking quick reference for emergency treatment. This book recognizes the many and intricate problems associated with present-day medicolegal injuries. It is recommended to physicians engaged in the field of traumatic surgery and medicolegal work.

Samuel M. Becker, M.D.

What We Do Know About Heart Attacks. John W. Gofman, M.D. Price, $3.50. Pp. 180. New York: Putnam, 1958.

Dr. Gofman has written a very interesting and stimulating book, easily understandable by the layman, explaining his concepts of the pathogenesis of coronary artery disease. The book is replete with tables and thorough analyses and discussions of these tables, and the evidence seems quite convincing that cholesterol, hypertension and heredity play a part in the etiology of this disease.

Dr. Gofman does not treat at all of the therapy or prevention of heart attacks but refers to another book, co-authored by himself, as to the dietary management. Although all of us may not share his enthusiasm in reference to the concept that he defends, nevertheless, we cannot discount it.

There is only one point in the book that is somewhat obscure and that is his use of units of blood pressure in reference to the relationship of blood pressure and coronary atherosclerosis. Otherwise, he leaves no stone unturned to make his meaning clear, and the result is an enjoyable, informative work.

This is a book that any physician can recommend to an intelligent layman to help enlist his coöperation in the therapy of heart attacks and possibly in the prevention of them.

Michel M. Healy, M.D.

Orr's Operations of General Surgery, 3rd ed. George A. Higgins, M.D., F.A.C.S., and Thomas G. Orr, Jr., M.D., F.A.C.S. Price, $20.00. Pp. 1016, with 1,990 step-by-step illustrations on 835 figures. Philadelphia: Saunders, 1958.

Preparation of this new edition of the widely used Orr's Operations of General Surgery, 1949 edition, was just undertaken when Dr. Thomas G. Orr, Sr. was suddenly and fatally stricken by coronary thrombosis. The work has been finished by the above-mentioned authors, who have done a remarkably good face-lifting and modernizing job. In going through the different chapters and comparing them with the former, second edition, it is immediately apparent that a commendable result has been obtained, producing a very useful book for a great many surgeons and students of surgery.

This book announces itself as giving clear-cut and well illustrated operative technics from excision of an ingrown toenail to repair of heart wounds. To handle surgical operations of such a wide variety in a not too unwieldy volume is a superhuman task, and so it is only natural that here and there one would wish more detail in describing operative procedures.

In the treatment of wounds an old-fashioned moist dressing, as recommended by Reid, is mentioned as promoting drainage of blood and reducing edema. This type of dressing, especially in hot climates, has caused the loss of many lives after amputations for tropical ulcers in the Burma Railroad prison camps, because it also promotes rapid bacterial growth. The chapter on skin grafting is very nicely done and well illustrated, as are many of the other chapters. The illustrations in this new edition are perfect and a pleasure to study while reading the technic. A new chapter on Surgery of the Head and Neck is extremely well done; the total laryngectomy described could probably better be left to the chest surgeons as is much in the chapter on Thorax, Respiratory and Circulatory Systems.

The section on Abdominal Surgery is very well done indeed; an exhaustive section is added for repairs of hernias. The other sections on orthopedic surgery, surgery of the nervous system, of the endocrine glands and of the genitourinary system are short, but all important

(*Continued on page 51*)

Book Reviews

(*Continued from page 46*)

current surgical procedures are outlined briefly.

All in all, a very useful book, especially for quick reference in a very wide field of surgical operations.

Philip Bloemsma, M.D.

Physician's Handbook, 10th ed. Marcus A. Krupp, M.D., Norman J. Sweet, M.D., Ernest Jawetz, Ph.D., M.D., and Charles D. Armstrong, M.D. Price, paper, $3.00. Pp. 500. Los Altos, Calif.: Lange, 1958.

This revision of a widely accepted handbook brings a useful guide and reference source up-to-date. It is a soft-covered volume encompassing a wide variety of medical subjects, all in everyday use.

There are excellent sections on history-taking and physical examination, both of a general nature as well as for examination of specific organ systems.

One chapter deals with routine instructions to patients for preparation for roentgen examination. There are sections on interpretation of electrocardiograms and electroencephalograms. None of these is designed to make the reader an expert but rather to refresh his mind on these procedures.

A short section deals with fluid and electrolyte balance. Handy equations are present to help with the calculations for proper fluid and electrolyte replacement therapy. There is a simple table of constitutents of normal body fluids.

Another chapter deals with general principles of inhalation therapy. There is a section on poisons and toxins, which, if for no other reason, makes the entire volume worthwhile.

Other areas deal with skin testing, clinical and office methods of detecting microörganisms, fungi, and parasites. These are complete with neat illustrations. There are excellent descriptions of methods of blood, urine, spinal fluid and fecal examinations.

There is a section on physiology of organ systems, including methods of measurement of these functions.

A short chapter on therapy gives recommendations for use of basic agents in a variety of therapeutic categories.

It soon becomes obvious that this small volume hits many of the highlights. However, there are, in addition, many excellent references present if one desires more specific information. There is a fine collection of reference tables and an easily understood index.

This volume represents a worthwhile addition to the student's and physician's library.

Jerome H. Epstein, M.D.

(*Continued on page 53*)

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1. Editorial: New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med. & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

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Book Reviews

(*Continued from page 51*)

Atrial Arrhythmias, Digitalis and Potassium. Bernard Lown, M.D., and Harold D. Levine, M.D. Price, $6.90. Pp. 222. New York: Landsberger Medical Books, 1958.

At first glance any discussion of paroxysmal auricular tachycardia (P.A.T.) with heart block would seem to be highly academic and limited in interest to a few cardiologists or electrocardiographers dealing in abstract rather than clinical problems. This is far from the truth, however, for in addition to the particular arrhythmia discussed (P.A.T.), the authors give a rather good review of digitalis pharmacodynamics and electrolyte and myocardial physiology.

Using clinical experiences as a basis, they set up a hypothesis as to the mechanism of production of paroxysmal atrial tachycardia and then provide impressive experimental and clinical data to support this concept. Certainly the most significant practical facts to be gleaned are that this atrial arrhythmia, infrequent as it has seemed in the past, may become more readily and thus more frequently diagnosed, and that when present, it is indicative of errors in therapy. While such errors are reversible if the situation is understood, all too frequently the mistake has been compounded through ignorance.

More specifically, when patients on the usual heart failure regimen of digitalis, diuretics, and sodium reduction develop a tachycardia, it is often viewed as insufficient therapy and both the drugs may be further "pushed." Actually, the tachycardia may be due to the development of P.A.T. with block, which is a manifestation of digitalis intoxication and/or potassium depletion. So, as the authors put it, to increase the digitalis and diuresis may be likened to trying to put out a fire with gasoline. In this situation restriction of digitalis and administration of potassium are actually indicated. It is easy to see how knowledge of this arrhythmia and its mechanism of production can be lifesaving.

While the evidence presented is convincing, there are some loopholes which deserve further elaboration. Many of these are academic, however, and do not detract significantly. Further, although concise (about 200 pages) and with many illustrations, the large number of case reports tends to reduce the "readibility" of the monograph, at least for one reader. The book is timely and certainly a worthy contribution.

Paul F. Dickens, M.D.

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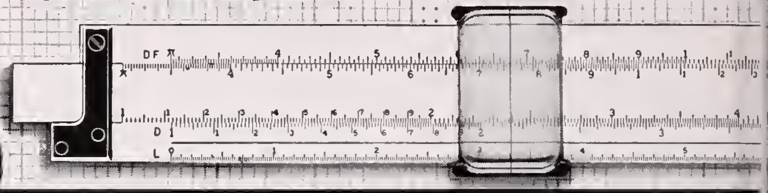

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Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous (adenitis, enteritis, enterocolitis, fever, subacute bacterial endocarditis, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

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HOWARD UNIVERSITY NUMBER

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ARTERIAL PRESSURE LEVEL AND THE PATHOGENESIS OF ARTERIOLONECROSIS IN DOGS WITH EXPERIMENTAL MALIGNANT HYPERTENSION*

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HOWARD UNIVERSITY COLLEGE OF MEDICINE

THE CLINICAL observations of reversal of the syndrome of malignant hypertension in patients after effective antihypertensive therapy either surgical or medical[1-6] suggest that the level of the arterial pressure is a significant, rather than an auxiliary factor in the development and progression of this disease. Our laboratory became interested anew in this problem when in the course of other experiments[7] it was found that bilateral renal artery constriction of a mild degree (without reduction of mean renal arterial pressure) could produce in dogs a

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* The research for this study was supported by a grant-in-aid from the Life Insurance Medical Research Fund. A preliminary abstract of the study appears in Federation Proceedings, 1956, **15**, 96.

syndrome of experimental malignant hypertension in which the kidneys as well as other organs were the site of arteriolonecrosis. In general, in studies of experimental malignant hypertension produced by severe renal artery constriction the kidneys do not show necrotizing lesions.[8-10] It is well known that the alimentary tract is particularly vulnerable to the development of arteriolar necrotic lesions both in experimental and human malignant hypertension.[8-12]

This report gives an account of our observations, that a loop of intestine which has its main intestinal artery constricted (so that the palpable and observable pulse of the artery and its branches beyond the constriction is 3 or more times less than the neighboring arteries) is protected against the development of arteriolonecrosis and the gross changes apparent in the remainder of the gastrointestinal tract and other organs of a dog dying of experimental malignant hypertension.

METHODS

Mongrel dogs of both sexes varying in weight from 12 to 14 Kg. housed in cages and fed a standard diet were used throughout this study.

The general procedure was to observe the mean pressure and nonprotein nitrogen (NPN) during a control period. Malignant hypertension and intestinal artery constriction were then produced at the same operation and the mean pressure, NPN and clinical course of the dog observed. All dogs were examined by autopsy and their tissues studied grossly and microscopically to the degree indicated, specific attention always being paid to the gross and microscopic changes in the intestines. Antibiotics were given postoperatively.

Measurement of arterial pressure. The mean femoral arterial pressure was recorded by direct femoral puncture in the unanesthetized, lightly restrained animal by the technic of Dameshek and Lowman.[13] Pressures were obtained twice a week in the control period and daily postoperatively.

Determination of nonprotein nitrogen (NPN). Haden's modification of the Folin-Wu protein-free filtrate[14] was used and analyzed for NPN by the method of Folin and Wu.[15]

Production of malignant hypertension. Malignant hypertension was produced either by simultaneous right nephrectomy and left renal artery constriction or simultaneous bilateral renal artery constriction. Renal artery constriction was performed by use of the standardized and modified Goldblatt technic of Wakerlin and associates.[16] Right nephrectomy was accomplished through a standard renal incision with a double ligation of the renal pedicle.

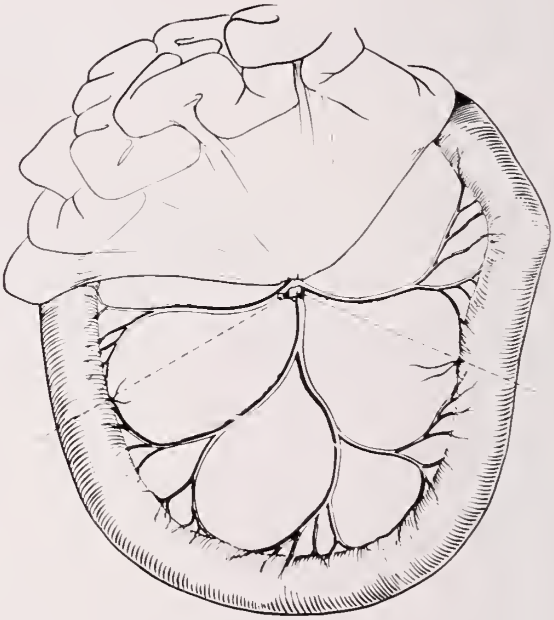

FIG. 1. Schematic diagram of intestines showing point of constriction of intestinal artery and placement of ligatures of arcuate branches. The hatched line indicates the area supplied by the constricted artery.

Intestinal artery constriction. The bowel was exposed through a standard right abdominal paramedian incision, a loop of ileum exposed (in 1 case, jejunum) and a Goldblatt "monkey kidney clamp" applied to the base of one of the intestinal branches of the mesenteric artery supplying the loop. The artery was constricted so that it was just less severe enough to completely depulsate the segment. The arcuate branches of this vessel were ligated at their distal ends to prevent collateral inflow from the submesenteric anastomoses (figure 1).

RESULTS

Fourteen dogs were used for this study, with 8 operations considered to be technically satisfactory. Table 1 summarizes the pertinent data obtained in these experiments. It can be seen that a definite and significant rise in mean femoral arterial pressure was obtained in all 8 dogs and averaged 59 mm. Hg following renal artery constriction. Although the average survival time in this group of dogs was 5 days, it must be pointed out that those dogs dying in less than 2 days were not included in this report as it was considered that this was not sufficient time for the development of arteriolonecrotic lesions.[17, 18]

In 5 of the 8 dogs satisfactory determinations of NPN were obtained throughout the period of study, and in these cases there was a significant rise following surgery.

In all but 1 of the dogs there was seen a definite and significant difference in the appearance of the constricted bowel and the rest of the alimentary tract. A typical gross appearance of the bowel with respect to the constricted portion is shown in figure 2. In each case the constricted segment

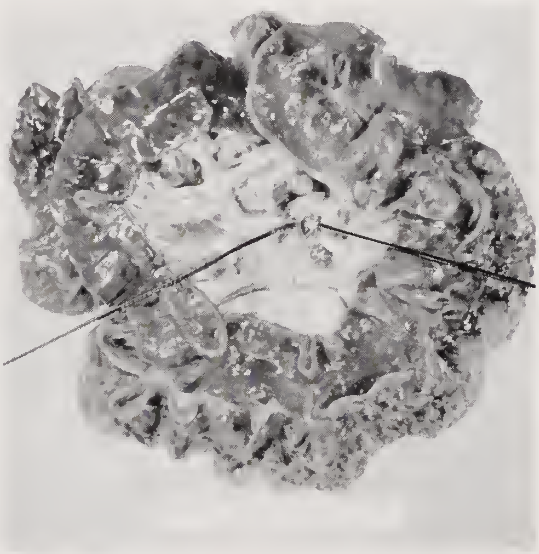

FIG. 2. Intestines of dog no. 8. Absence of hemorrhagic areas in ileum supplied by constricted artery (innermost loop within black lines) is in striking contrast to numerous hemorrhagic areas in adjacent ileum (outermost loop within black lines) not protected against rise in pressure. Hemorrhagic lesions are also present in all other areas of intestine shown.

TABLE 1

Summary of the Maximum Changes in Arterial Pressure and Nonprotein Nitrogen in Dogs Developing Experimental Malignant Hypertenson

Dog No.	Average Preoperative Mean Femoral Pressure	Maximum Postoperative Mean Femoral Pressure	Rise in Pressure	NPN Preoperative	Maximum NPN Postoperative	Rise in NPN	Presence of Necrotizing Lesions in Constricted Bowel	Operation for Production of Malignant Hypertension	Survival
	mm. Hg	*mm. Hg*	*mm. Hg*	*mg. %*	*mg. %*	*mg. %*			*days*
1*	127	192	65	—	—	—	No	RN† + LRAC‡	3
2	131	196	65	48	264	116	No	RN + LRAC	16
3§	162	198	36	44	212	168	No	RRAC‖	3
4	119	188	69	26	196	170	No	BRAC¶	3
5	119	196	77	—	—	—	No	BRAC	3
6	122	189	67	—	—	—	No	BRAC	4
7	120	178	58	32	187	155	Yes※	RN + LRAC	4
8	128	164	36	29	134	104	No	RN + LRAC	6
MEAN			59			143			

* Artery to jejunal loop constricted
† Right nephrectomy
‡ Left renal artery constriction
§ Congenital absence of left kidney
‖ Right renal artery constriction
¶ Bilateral renal artery constriction
※ See text

of intestine was devoid of the gross petechial hemorrhages of the walls and the mucosal surfaces, while the nonconstricted remainder of the gastrointestinal tract showed the typical changes characteristically found in experimental malignant hypertension.[8-10]

Microscopically, except for dog no. 7, typical arteriolonecrotic lesions were present and numerous in all portions of the intestine except in the constricted segment. Constricted segments differed also in that there appeared to be some atrophic changes on its mucosal surface. A comparative study of the specific microscopic pathology of the constricted versus the adjacent nonconstricted portions of intestine will be the subject of a communication to follow and therefore is not detailed in this presentation.

Exactly why dog no. 7 did not show the typical absence of lesions in the constricted bowel is not presently clear. However, it is our belief that in this particular experiment the degree of constriction of the intestinal artery was not adequate. Studies are in progress to assess the merit of this conviction.

Critique of Experiment

It is clear that the magnitude of pressure decrease in the constricted segment of intestine in these experiments should be determined, as our results appear to indicate that there is some critical range of pressure wherein necrotizing arteriolitis does not develop but is sufficient to maintain adequate nutrition to the segment. Studies are in progress devised to measure the intra-arterial pressure in the intestinal branch of the mesenteric artery before and after constriction.

Discussion

There are 3 major theories as to the pathogenesis of the typical lesions of malignant hypertension. Grollman[19] suggests that there is a lack of some regulating or stabilizing factor normally supplied by the kidney as does Wakerlin,[20] who feels that renal insufficiency and hypertension are, however, auxiliary factors in the pathogenesis. Selye's studies[21] suggest that the lesions are produced by a combination of overproduction of adrenocortical steriods and renal insufficiency. The presence of a necrotziing substance from the damaged kidney is a cause of the lesions, according to Winternitz,[22] and Goldblatt[9] thinks that renal insufficiency, hypertension and a humorally transmitted necrotizing factor must be present.

Our results suggest that the level of arterial pressure is a dominant rather than an auxiliary factor in the production of arteriolonecrosis because no lesions developed in the area in which blood pressure was reduced, whereas areas adjacent not protected against this rise in pressure developed numerous and typical lesions. Since the pressure alone was reduced, this experiment did not preclude the possibility of any humoral or necrotizing substance reaching the area. The absence of lesions then appears to mitigate against such substances, or hormones, as the primary causative agent, and equally against the theory of lack of a renal principle since both segments (constricted and nonconstricted) are exposed to either a circulating substance or lack of such a substance. Our results also clearly suggest that it is the decrease in arterial pressure distal to the Goldblatt clamps which protects against lesions in the kidney and not an inherent property of the renal tissue per se. This study appears to indicate that hypotensive agents and sympathectomy are of value in prevention of lesions in the treatment of human malignant hypertension as well. It is postulated that the acute rise in pressure results in rupture of the vasa vasorum and arteriolonecrosis. If, then, an animal can be protected against this rise in pressure while maintaining renal function, it is theorized that such animals will not develop malignant hypertension but may develop chronic hypertension of renal origin. Such studies are in progress.

(Continued on page 179)

ENURESIS IN ADULTS

Preliminary Study

E. Y. WILLIAMS, M.D.

Professor and Chief of the Division of Neurology and Psychiatry, Howard University College of Medicine

WHILE the psychologic and sociologic effects of bed-wetting among children have been considered and investigated, few attempts have been made to determine the effects on grown-ups. Because of the adverse effects observed recently in 2 adult patients it was thought it might be worthwhile to investigate this problem in greater detail.

A total of 16 patients who suffered from nocturnal enuresis were studied. It was observed that this condition had definitely affected them, not only as to their personality make-up, but as to their outlook on life, and thus had crushed their possibilities for greater success. These 16 patients were selected from a larger group of 30 bed-wetters because of greater frequency. Every one in this group suffered from at least 4 periods of enuresis weekly, and those with 2 or 3 times per month were excluded. These observations also suggested that among grown-ups there was a varying degree of this pattern.

The ages of these individuals ranged from 19 to 41 with greater frequency seen among men as compared with women (10 to 6). In every instance when these patients were interviewed they were reluctant to discuss this matter, and this factor was only discovered by asking the question directly, "Are you a bed-wetter?" In none of these cases was enuresis the presenting symptom or related to their illness and was discovered only after asking this question.

Of the 16 patients selected for this study the parents of 7 were also bed-wetters and in 2 of these instances the mothers who were bed-wetters stopped being so after the onset of menstruation.

The problem of broken homes, so often blamed for many ills, was found to be present in only 4 cases, and in these cases it was the father who had deserted the home.

The educational aspects were probably one of the most important factors noted. Eight were good students who could have been admitted to college had they so desired, but all resisted family pressure. Four had scholarships to go away to colleges, but because of the problem anticipated in dormitories they refused, much to the disgust of teachers and friends from whom this factor was hidden. Two stayed at home to attend college because of fear of their bed-wetting being discovered, while another attended college for a while and discontinued because in spite of his daily baths he suspected other students smelt the odor of urine on him. One lived in a hotel because the service was impersonal in that he did not know the maid who took care of his room. Of the other 8 patients 6 left school at the level of ninth to eleventh grades, giving as the reason that they had to help their families and that they needed good clothing. Further questioning revealed there was a growing sensitivity that caused the actual separation. Two did not graduate from junior high school because of the lack of necessary clothing for daily change and bathing facilities. Both belonged to large families. They too suspected other children were moving away from them and that the odor of urine was still on them. They played truants and were sent to reform school, where their bed-wetting became an even more severe problem.

The ambitions as expressed by these individuals were also studied. Although there is no assurance this problem would have been a true barrier, all of these patients felt that without this problem they could have made much further intellectual progress. In evaluating their motivation it was noted that of these 16 patients 5 had no definite goal. They expressed 2 or 3 preferences, any one of which would have been satisfactory. One patient would have been satisfied as policeman, fireman or chauffeur, and another as teacher, businessman or grocer. Of the 9 who felt very definitely that enuresis thwarted their career their aspirations were as follows: 3 wanted to be lawyers, 1 wanted to be a doctor, 1 wanted to be a dentist, 1 wanted to be a social worker, and 3 wanted to be engineers. In no instance were these ambitions realized.

The social adjustment forced upon them because of this problem was equally interesting. Only 2 got married, 1 man slept in his bed alone, while another was divorced by his wife for incompatibility. Three were found to be homosexuals and lived alone with an abundance of musical records. Five still lived at home with their families, giving numerous excuses for being there, such as very much needed. One slept with a cousin in a slum area while staying or leaving his clothing, etc. with his sister in a more fashionable area. Two lived in apartments alone, entertaining lavishly, while another lived in common-law relationship, bringing all his money to the support of a widow with 3 children, none of whom was his.

Since only men reported for military service the effects on the women from this standpoint were unimportant. Two were rejected by the Navy and this could very well be understood because of the limitation of sleeping quarters on the ships. Three were accepted in the Army because they were not asked whether they suffered from enuresis. Two were unacceptable in the Army. These patients refused to state why they were not accepted for military service beyond admitting they were classified as 4 F's. Three were considered as hardship cases and were not accepted, and physical and emotional factors caused rejection of others. On the whole, the embarrassment due to inability to give the reason for rejection was very great.

The relationship with girls was also studied. It was noted that these men were very shy, and, although they were not afraid of women, they lacked the male aggressiveness. They acted as though they were in need of love themselves and looked to their mates for attention rather than giving it. Three of the men showed definite effeminate tendencies, and, as stated before, 3 were homosexuals. The women, however, showed no trait that could be interpreted in any way to be different. They showed the characteristic femaleness.

The sleep pattern and factors were of interest also. The following were found to be true in general: (1) They were all difficult to be aroused from sleep; (2) when aroused more than usual confusion was noted (one patient if aroused in an attempt to get him to the bathroom was known to walk around his bed and urinate on the floor); (3) during sleep sphincter awareness normally appreciated was found to be absent; (4) in general they drank more fluid than others in the family (although in 3 cases this was less than most of the family) before going to bed; (5) they were not too uncomfortable in their 'urine-drenched' beds; (6) four slept in the position in utero after bed-wetting as observed by others in the family; and (7) sleeping on the back was the favorite position. Two suspected frequency was less when sleeping on one side or other.

The relation with the weather was also studied, since some investigators have noted an increase in enuresis in cold weather on the theory that in cold weather less fluid is excreted by the skin and more by the kidney. This could not be verified by these observations. Whereas in cold weather there was greater urge to keep warm and urination in some way also increased, in the summer there was greater urge to imbibe large amounts of fluids and this compensated as to frequency since amount could not be evaluated.

MANAGEMENT

Interest in the treatment must also take into consideration etiology; therefore, irritation from the genitourinary tract should be considered first. One author mentioned such factors as highly acid urine, cystitis, vesical calculus, vulvovaginitis, balanitis, preputial adhesions, and irritation from pinworms as predisposing causes. In our cases these factors were ruled out by history and examination.

It is the belief of many investigators that lack of training is the basis for this pattern. Because of the ages of our patients we were unable to prove this.

In 4 cases the patients reported, and their statements were confirmed by the parents, that all attempts to get them trained by 3 years of age were unsuccessful. Depth of sleep was considered of great importance. As a result 2 children were studied to evaluate this. One father whipped his son after he had drenched his bed. Next morning the child saw the welts on his body and was not aware of this whipping. In another instance the father took his son on his shoulder to the bathroom on several occasions, and next morning the child would not be aware of this. From these observations it was thought (where pathophysiologic factors could be ruled out) that for patients not to be bed-wetters they would have to sleep lightly. Thus the depth of sleep and relation to bladder awareness were most important.

To evaluate the possibility of acid urine 2 men were placed on tablets of sodium bicarbonate for 2 weeks. No change in the enuretic pattern was noted. These patients slept as usual. Next they were given 2.5 mg. of Dexedrine sulfate at bedtime. One patient hardly slept for 6 nights and did not urinate in his bed during that time. He had quite an ordeal during the day on his job, however, because of lack of sleep. The other slept fitfully, and during the trial week he suffered from enuresis only once and was even able to check himself halfway through the act. On the basis of this evidence it was thought that the use of sedatives to calm the nerves was contraindicated, since it only produced a greater depth of sleep and less awareness.

Three patients were put on sedation, and while the frequency was not exceeded, in no instances was there a reduction in the enuretic problem.

It was thought, therefore, that drugs that lessened the depth of sleep had a better chance of decreasing nocturnal enuresis and that with proper dosage bladder awareness could be realized through such a conditioning pattern. At present 6 patients have been successfully managed, and although some supportive psychotherapy was carried out the results have been most convincing as well as gratifying. Because of the varying reactions to Dexedrine it was found necessary to individualize the dosage.

COMMENT

This study has pointed out that nocturnal enuresis is a definite source of concern to patients so affected and no less to their families. The report of the Joint Commission of the British Medical Association and Magistrates Association noted that beyond the age of 3 about a seventh of the population have at some time suffered from enuresis. It was also shown that 10 per cent of such patients had some accountable physical defects and that 6 per cent were not properly trained. This body observed, further, that regardless of what was done many remained persistent bed-wetters.[1]

Brathwaite[2] noted that 1 in 20 failed to have bladder control established at the age of 5. Roen[3] also noted that 5 to 10 per cent of children were bed-wetters. Clein[4] expressed the opinion that 95 per cent of patients he studied had some psychologic basis for this reaction. This viewpoint was supported by Miller[5] and Hood.[6] In our studies, because of the age of our patients, we were unable to evaluate or support each viewpoint, and while this might be true of a considerable number of cases the effort to obtain such evidence was very difficult and in 3 cases not very convincing. Impressed on us, however, was the problem of the failure of sphincter awareness to be developed. Spock[7] has noted that children who were frequently handled were more quickly trained to stay dry than those less frequently handled. This is an important fact for young mothers, since too often it is felt that frequent handling 'spoils' a baby as to training. Again, here we could get no convincing data on this point of view from the history.

It was our observation that the awakened person never urinated on himself unless there occurred poor sphincter control or severe urgency or difficulty finding the proper place.

Kanner[8] has shown that, in general, patients with enuresis showed unstable endowment, lack of, or faulty training, and complex situations which might cause emotional upsets. Since our patients were adults, we could not get the necessary information to prove or disprove these observations. We were, however, impressed by observations on other patients not included in this study whose parents made little or no attempt at training them yet in whom complete sphincter control occurred. It would, therefore, seem that an unstable or immature endowment was a most important factor. Evidence of the use of many drugs in the treatment of enuresis has been noted by many authors. It is to be noted that use of Benzedrine sulfate proved rather successful previously in treating this disorder.[9] Observations of Ström-Olsen[10] tend to show that some relationship does exist in the hypothalmus between the waking mechanism and the mechanism of sleep. Since sleep is a factor, it is our considered opinion that light sleep allows a greater bladder awareness and that once sphincter awareness develops into a regular pattern or reflex the individual can wake himself from sleep and make use of the toilet with assurance and ease.

Summary

Sixteen adults with nocturnal enuresis were studied. This condition had definite psychologic effects on all. None seemed able to reach the goal he or she aspired to or set to reach. None was able to make an adequate marital adjustment. All were deep sleepers, aroused with difficulty. Bladder awareness was noted to be absent. Therapy designed to lessen depth of sleep succeeded in preventing enuresis, whereas sedatives appeared to have no effect whatsoever on the problem. Although this number is far too small from which to draw any conclusion, our observations seemed to show a definite clinical trend.

BIBLIOGRAPHY

1. Report of Joint Commission of the British Medical Association and Magistrates Association, 1948, **80,** 79.
2. Brathwaite, J. V.: The child who wets the bed. Gen. Practitioner, 1951, **3,** 53.
3. Roen, P. R.: Is your child a bedwetter? Hygeia. 1948, **26,** 34.
4. Clein, N. W.: Enuresis, common sense treatment. Northwestern Med., 1948, **47,** 281.
5. Miller, E.: Bedwetting problem. Ment. Health, 1940, **1,** 2.
6. Hood, A. J., and Madison, B. B.: Persistent enuresis. Wisconsin M. J., 1940, **39,** 363.
7. Spock, B.: The Common Sense Book of Baby and Child Care. New York: Duell, Sloane & Pierce, Inc., 1946.
8. Kanner, L.: Child Psychiatry, 2nd ed. Springfield, Ill.: Thomas, 1955.
9. Molitch, M., and Poliakoff, S.: Effect of Benzedrine sulfate on enuresis. Arch. Pediat., 1937, **54,** 499.
10. Ström-Olsen, R.: Enuresis in adults and abnormality of sleep. Lancet, 1950, **2,** 133.

SARCOIDOSIS*†

A Functional Classification

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DURING THE PAST several years we have had the opportunity to perform pulmonary function studies on patients with sarcoidosis. In analyzing the results it became obvious to us that these patients show a variety of functional patterns which are more closely related to symptoms than to the character and extent of the lesions seen on their chest roentgenograms.

As a result of the analysis of our own findings and of pulmonary function studies reported in the literature[1-4] on patients with sarcoidosis, we are proposing a classification of sarcoidosis based upon pulmonary function.

Obviously there may be more than 1 abnormality present in a given patient, but the proposed classification is based upon the predominant functional characteristic. The patients studied in this project were from the wards of the chronic pulmonary disease service of Freedmen's Hospital and the chest clinic of the same institution. There were 16 patients included in the study, 11 of whom had biopsy confirmation of the diagnosis; in the others the diagnosis was made on the basis of clinical course and X-ray appearance. All had pulmonary manifestations compatible with the diagnosis, and 12 had negative (intermediate strength) tuberculin tests. The methods used were conventional. Each patient had a routine spirogram performed on the Warren Collins respirometer, and other studies were performed as indicated.

The proposed classification is as follows:

I. Sarcoidosis with normal pulmonary function
II. Sarcoidosis with abnormal pulmonary function
    A. Compensated
        1. Restrictive pneumonopathy
        2. Obstructive pneumonopathy
        3. Alveolar-capillary block
    B. Uncompensated

The results of our studies in relation to the classification are as follows:

I. *Sarcoidosis with normal pulmonary function* (see figs. 1 and 2). These patients (table 1) all had normal spirograms without evidence of prolongation of expiration or air-trapping. The maximal breathing capacity and vital capacity were both within the range of normal. In these patients dyspnea was not present at rest or upon exertion.

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† Delivered at the Ninth Annual Regional Meeting of the American College of Physicians in Washington, D. C., November 1, 1958.

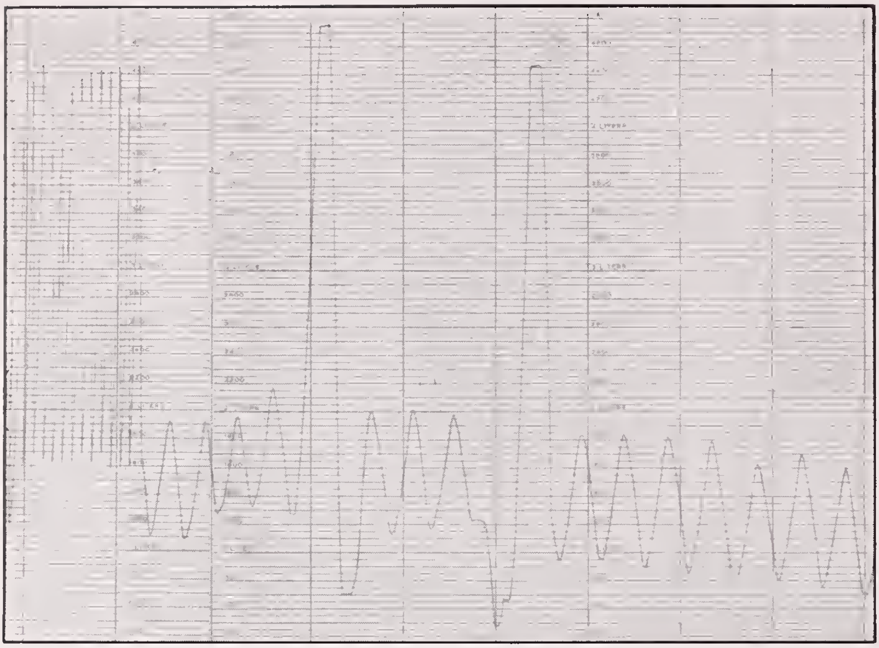

FIG. 1. Spirogram of patient (R. W.) with sarcoidosis and normal pulmonary function.

II-A. *Sarcoidosis with abnormal pulmonary function—compensated* (see figs. 3 and 4).

1. Restrictive pneumonopathy. These patients (table 2) all showed a normal pattern on their spirograms with no evidence of air-trapping or prolongation of expiration. There was comparable reduction in maximal breathing capacity and in vital capacity. There were 2 patients with dyspnea on exertion (cases 5 and 6).

2. Obstructive pneumonopathy (see figs. 5 and 6). All of these patients (table 3) had abnormal spirograms. There was prolongation of expiration in every case and air-trapping in 3 cases. A disproportionate reduction in maximal breathing capacity as compared to the vital capacity was noted in all patients except 1. This patient had a strong restrictive component in addition to the obstructive component. Clinically these patients showed dyspnea on exertion.

3. Alveolar-capillary block. Dr. Cournand[1] first described this condition and among the 30 cases that he studied there were 5 of sarcoidosis. He listed the characteristics of alveolar-capillary block as follows:

(1) Reduced lung volumes

(2) Well preserved maximum breathing capacity

(3) Hyperventilation at rest and during exercise

(4) Normal arterial oxygen saturation and low carbon dioxide tension at rest

(5) Marked arterial oxygen unsaturation after exercise

(6) High alveolar oxygen tension

(7) Large alveolar-arterial oxygen tension gradients at 2 levels of oxygenation

(8) Reduced oxygen diffusing capacity

(9) Normal or slightly abnormal ventilation-perfusion relationship

(10) Moderate to severe pulmonary arterial hypertension

(11) Slightly increased cardiac output at rest.

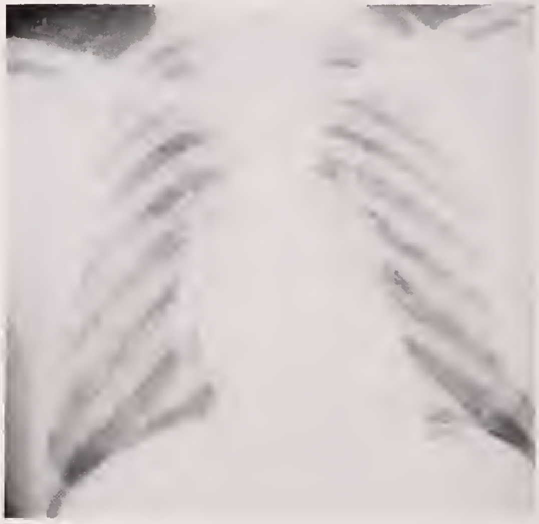

FIG. 2. Sarcoidosis with normal pulmonary function (R. W.).

TABLE 1

Sarcoidosis with Normal Pulmonary Function

Patient	Date	MVR lit./min.	MVR Pred.*	MBC lit./min.	MBC % of Pred.	VC liters	VC % of Pred.	MBC % of Pred., VC % of Pred.
R. W.	4-6-57	9.5	8.3	148.0	89	4.3	74	1.2
P. S.	12-9-55	9.5	5.2	84.4	94	3.06	111	.9
W. P.	12-2-57	6.2	6.0	82.0	84	2.59	81	1.0

There was no air-trapping or prolongation of expiration in any of these 3 patients.

* Predicted or normal

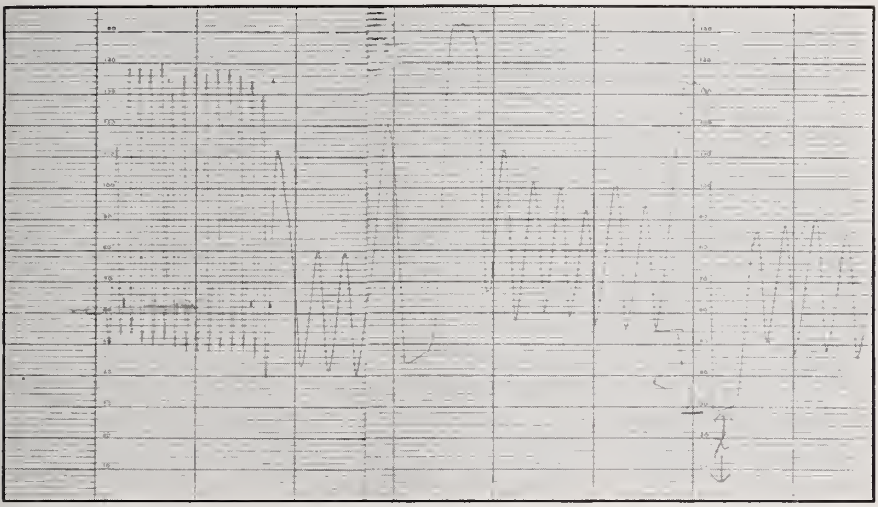

Fig. 3. Spirogram of patient (S. A.) with sarcoidosis and compensated restrictive pneumonopathy.

We had no patients in this category in our series. The clinical findings would be related to anoxemia, and the chief distinguishing clinical characteristic would be hyperventilation at rest and cyanosis upon exertion in the advanced cases.

II-B. *Sarcoidosis with abnormal pulmonary function—uncompensated.* These patients represent the end-stage of pulmonary insufficiency. Frequently they show a mixture of restrictive and obstructive insufficiency with evidence of alveolar-capillary block as well. Function tests are not necessarily essential to classify patients in this category since they are usually totally disabled because of dyspnea and anoxemia. Cor pulmonale may be a complicating factor. The following case history is that of a patient in this category:

Patient R. J., a 31-year-old woman, was hospitalized on June 13, 1955 with the diagnosis of cor pulmonale due to sarcoidosis (fig. 7). She was progressively dyspneic and, in spite of therapy, expired on December 29, 1955. Autopsy was performed and the significant findings were marked fibrous replacement of the normal lung parenchyma, bilateral emphysematous bullae of various sizes, and areas of noncaseating granuloma.

Discussion

The results of pulmonary function tests in patients with sarcoidosis are related to the distribution, character and extent of the lesions and

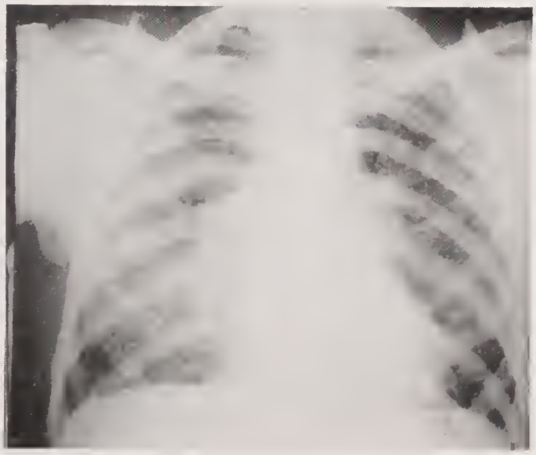

Fig. 4. Sarcoidosis with compensated restrictive pneumonopathy (S. A.).

TABLE 2

Sarcoidosis with Abnormal Pulmonary Function

(Restrictive Pneumonopathy)

Patient	Date	MRV lit./min.	MVR Pred.	MBC lit./min	MBC % of Pred.	VC liters	VC % of Pred.	MBC % of Pred., VC % of Pred.
S. A.	3–23–55	14.2	6.4	85.2	64	2.31	51	1.3
E. A.	6–27–56	7.9	5.9	45.58	56	1.69	54	1.0
L. M.	9–4–56	4.5	5.9	54.4	57	2.3	74	.8
T. M.	6–8–55	10.4	4.7	27.28	34	6.87	28	1.2
E. M.	5–9–56	16.4	6.2	37.6	35	1.29	30	1.2
E. T.	1–13–56	8.7	5.0	37.6	46	1.12	43	1.1

There was no air-trapping or prolongation of expiration in any of these 6 patients.

also to the nature and extent of complications when present. The characteristic features of the sarcoid lesions are those of a low-grade interstitial granulomatous process occurring in multiple foci and exhibiting a tendency to cluster in regions of small lymphatic channels, as in the peribronchial, perivascular and subpleural areas of the lung. They are most apt to occur where lymphoid and reticulo-endothelial tissues abound. Widespread involvement of tissue is usually related to an increase in the number of lesions rather than an increase in size of individual lesions. These lesions may form large masses which may distort atria and alveoli. The walls of the bronchi and bronchioles are frequently involved when the lesions are extensive; however, the lining membrane is usually intact, but the lumens may be narrowed by the underlying tubercles. Spain[5] found diffuse infiltration of the bronchiolar walls with the granulomatous lesion of sarcoid in a surgically removed upper lobe of a patient with sarcoidosis. He stated that the emphysema and bullae present were undoubtedly secondary to the bronchiolar involvement. This fits into the obstructive category. Turiaf and his associates[6] stress the frequency of bronchial and bronchiolar lesions. It seems quite possible that when the lesions are primarily interstitial, granulomatous and not too extensive, the patient should have an essentially normal pulmonary function. However, when there are extensive bronchial and/or bronchiolar lesions there would be an obstructive pattern. This could also obtain when there is distortion of bronchi and bronchioles by sclerosing lesions or by lymph nodes impinging on the airways.

The mechanism of the dyspnea that occurs in those patients with obstructive disease is similar to that which obtains in other forms of obstruc-

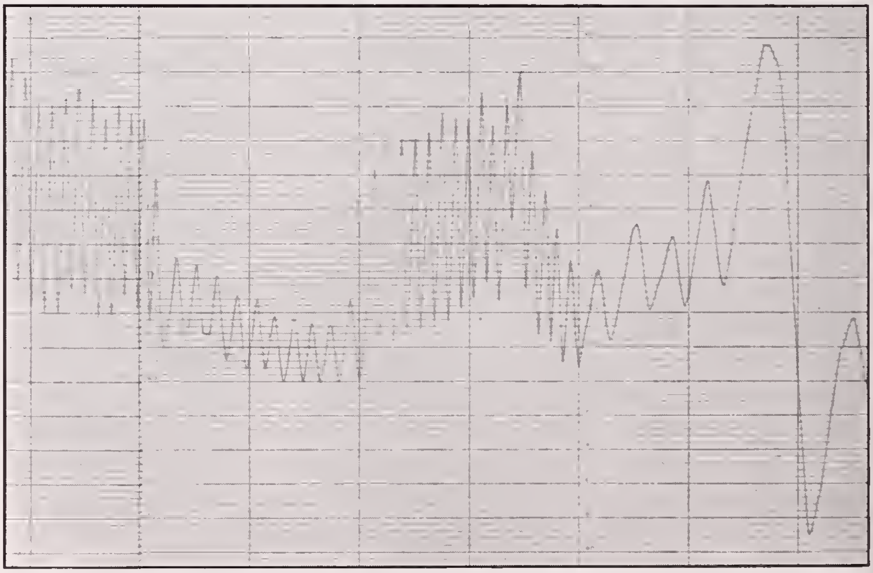

Fig. 5. Spirogram of patient (J. H.) with obstructive pneumonopathy.

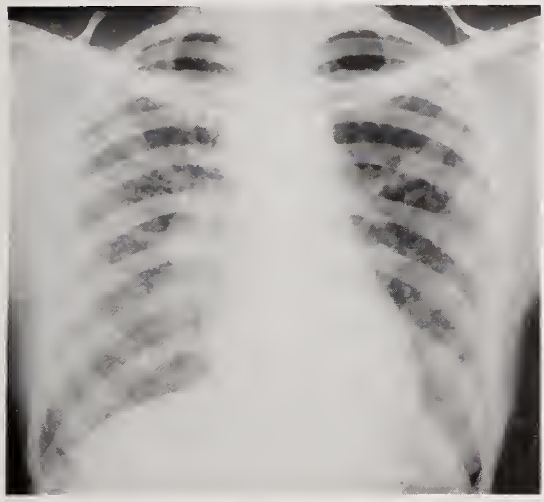

FIG. 6. Sarcoidosis with obstructive pneumonopathy (E. H.).

tive disease such as pulmonary emphysema. There is an increase in the work of breathing, and expiration is more difficult and prolonged. As a matter of fact, Coates and Comroe[2] studied a group of patients with sarcoidosis who exhibited an increase in residual volume as well as nonuniformity of the alveolar gas as measured by the single breath technic.

When the interstitial lesions become massive, with or without sclerosis, the restrictive patterns would logically be described. If these lesions are widespread the pattern of alveolar capillary-block would emerge and be more pronounced if the lesions became sclerotic.

In the uncompensated category autopsy is apt to show the massive sclerosing lesions which may contain complicating bullae, ectatic bronchi and cor pulmonale. We[7] have studied cases in which there was massive replacement of lung tissue by sclerotic lesions with the formation of cavities, bullae and ectatic bronchi. From the prognostic point of view the functional abnormalities would be potentially reversible when due to granulomatous lesions but not when due to sclerosing lesions. However, it is not possible to postulate the functional abnormality upon the age of the lesion or to assume that the various types of functional abnormalities represent stages in the development of the same lesion.

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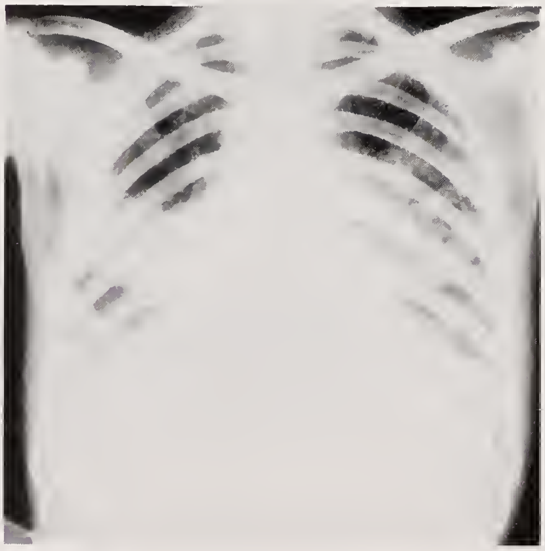

FIG. 7. Decompensated sarcoidosis in patient R. J.

TABLE 3

Sarcoidosis with Abnormal Pulmonary Function

(Obstructive Pneumonopathy)

Patient	Date	MVR lit./min.	MVR Pred.	MBC lit./min.	MBC % of Pred.	VC liters	VC % of Pred.	MBC % of Pred., VC % of Pred.
E. H.*	3-20-57	4.6	6.05	40.9	41	2.4	75	.5
M. T.	4-24-56	6.6	6.5	63.5	56	2.4	71	.8
E. W.	11-2-55	6.18	7.0	40.6	47	2.8	67	.7
C. W.*	10-5-57	7.0	6.2	34.4	33	1.51	34	1.0
J. H.*	3-25-56	4.8	6.05	53.30	42	3.04	71	.6
S. M.	9-3-58	4.65	7.3	57.8	50	3.42	88	.6

There was prolongation of expiration in all 6 cases.

* Air-trapping

THE NEPHROTIC SYNDROME IN CHILDREN

Problems Relating to Management

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ALTHOUGH the nephrotic syndrome is a well established and fairly easily diagnosed clinical entity, there is some uncertainty about its true nature. Clinically the condition is characterized by intermittent edema associated with heavy proteinuria, low concentrations of plasma proteins, especially albumin and gamma globulin, and hyperlipemia. In addition, Barnett, Forman and Lauson[1] suggest that certain clinical observations should be taken into account as follows:

1. The nephrotic syndrome may or may not be accompanied by nephritic manifestations (reduced kidney function, hematuria, hypertension).
2. It may appear in the absence of any evidence of previous kidney disease or during the course of classical diffuse glomerulonephritis.
3. It may appear in association with certain recognized systemic diseases not primary in the kidney (lupus erythematosus, etc.).
4. It may occur during the administration of certain drugs (Tridione, gold salts) or following bee stings or exposure to certain contactants.
5. It is usually not preceded by evidence of systemic infections (group A hemolytic streptococci or others).
6. It may result in complete recovery or in death from renal insufficiency or from intercurrent infection.

In a review of 73 cases in children covering 25 years' experience at the Henry Ford Hospital Hinchman[2] found that the greatest incidence of cases occurred between the first and third years of age. In a study of 429 patients observed prior to the use of hormone therapy Riley and Davis[3] reported a similar age incidence with about 55 per cent of the children alive 7 years after onset of the disease.

The current use of antibiotic and hormone therapy has brought salutary results in prognosis, but the mortality rate for the disease remains between 35 and 50 per cent for children.[4-9]

The purpose of this report is to describe the syndrome in a 12-year-old boy in whom the disease was comparatively late in its onset and posed a formidable problem because of complications and poor response to treatment. A second patient, a younger child with a more favorable clinical course, is described as a contrasting case.

REPORT OF CASES

Case 1. G. W., a 12-year-old boy, was first admitted to the Pediatric Service of Freedmen's Hospital on July 7, 1957 with a history of swelling of the eyes and legs of 24 hours' duration. Except for vague upper respiratory tract symptoms during the month immediately preceding hospitalization the boy had been considered perfectly well. His only past illnesses were measles, mumps and chickenpox. There was no history of allergic manifestations in the patient or in his close relatives.

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* Dr. Booker completed his residency training at Freedmen's Hospital in 1958 and is presently resident physician at Children's Hospital, Detroit, Michigan.

Physical examination at the time of admission was remarkable only in the presence of moderate edema of the face and lower extremities with a suggestion of minimal ascites. The skin was somewhat pale. The nasal mucosa was pale and boggy and suggested an allergic reaction. The blood pressure was 102/80.

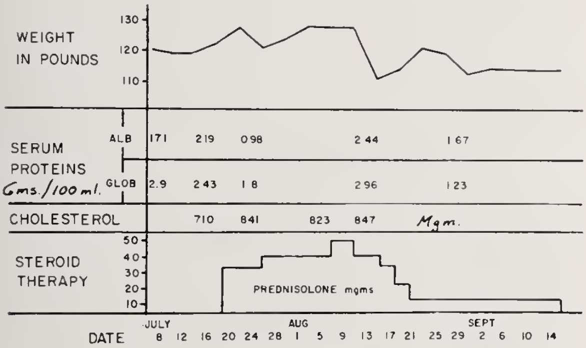

FIG. 1. Case 1. First admission. Note absence of sustained weight loss after 2 months of prednisolone therapy.

The initial laboratory findings were the classic ones of a nephrotic syndrome: total serum protein 3.9 Gm. (albumin 1.71, globulin 2.19), cholesterol 370 mg. per 100 ml. of blood, urinary albumin 35.75 Gm. per 24 hours, and nonprotein nitrogen 26 mg. per 100 ml. of blood. The blood cholesterol rose to 710 mg. within 1 week.

The initial treatment consisted of the use of prednisolone, 30 mg. daily for 25 days. During this time the weight increased from 117 to 127 pounds. Following gradual reduction of the prednisolone dosage his weight declined to 111 pounds. He was discharged on September 15, 1957 after a somewhat slow and erratic response to treatment (figure 1) on prednisolone, 10 mg. daily.

The patient was readmitted to the Pediatric Service on October 8, 1957. During the interim his weight had progressively increased to 125½ pounds. Severe edema of the face and lower extremities was noted as well as evidence of ascites. The pertinent laboratory data were still characteristic for nephrosis. The course during the first 12 days was not unusual for the disease except for intermittent vague abdominal pain and headache which responded to aspirin therapy.

During the first 12 days of this admission the dosage of prednisolone (which had been maintained at 10 mg. daily between admissions) was increased to 50 mg. daily for 3 days followed by a gradual tapering down to 20 mg. While on 20 mg. daily, on the thirteenth hospital day the patient suddenly began to vomit bile-stained gastric contents and to suffer severe diffuse abdominal pain. Physical examination disclosed generalized abdominal tenderness with hypoactive bowel sounds. Shortly after an X-ray film of the abdomen showed air beneath the diaphragm an exploratory laparotomy revealed a perforated duodenal ulcer which was repaired without difficulty. Treatment during the uneventful postoperative course consisted of the use of intravenous fluids and electrolytes with ACTH and cortisone. A good diuresis which began 5 days before surgery continued until the second postoperative day (figure 2). At discharge on November 15, 1957 the weight was 112 pounds.

Twenty-three days following the second discharge a third admission was required because of the reappearance of edema and a marked reduction in urinary output. Although a steady increase in weight to 123 lbs. followed his outpatient course, the boy did not notice any decrease in urinary output until a week prior to admission, at which time his laboratory findings were essentially unchanged from his previous 2 hospitalizations.

Initial treatment with chlorothiazide (Diuril), 2 to 4

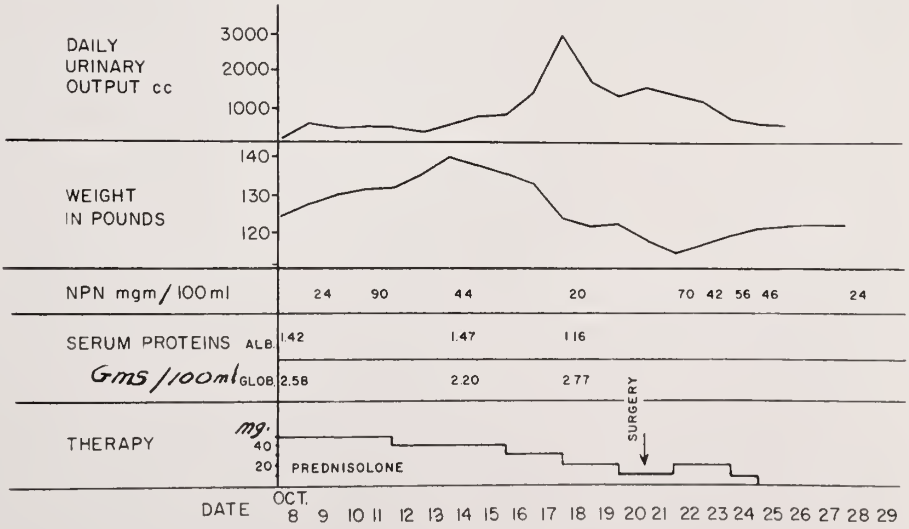

FIG. 2. Case 1. Diagram of course during second admission when acute perforation of a duodenal ulceration occurred. Note diuresis that began about 5 days before surgical operation.

Gm. daily, produced no weight change or general improvement. On the fifth day the drug was temporarily discontinued because of vomiting and epigastric distress. A gastroduodenal X-ray examination demonstrated an ulcer crater interpreted as active by the roentgenologist. After the early institution of a Sippy ulcer regimen, chlorothiazide was resumed for 10 days with no apparent benefit. A temporary weight loss of 10 pounds did result, however, from the subsequent intravenous administration of serum albumin (25 Gm.) daily for 10 days followed by the use of chlorothiazide, 4 Gm. daily for 8 days. At this time electrophoretic analysis of the plasma protein showed an increase in the alpha globulin and a low value for the albumin (figure 3).

Twelve per cent dextran* was given intravenously on January 17, 1958 and continued in 500 c.c. increments daily for 4 days. A dramatic diuresis followed with rapid disappearance of edema and weight loss to 107 lbs. (figure 4). During the course of therapy the plasma volume increased from 2,199 c.c. to 3,535 c.c. with a similar 1,440 c.c. increase in total blood volume. The blood pressure rose from 100/80 to 165/120 at one point.

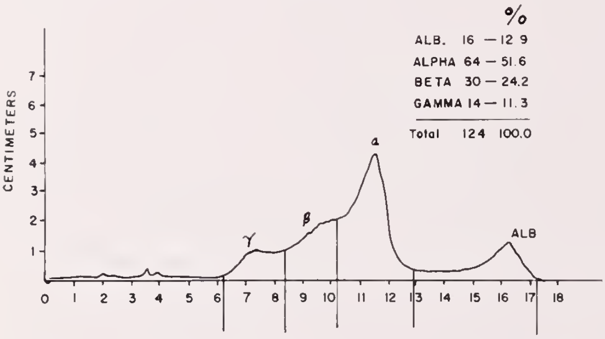

Fig. 3. Case 1. Paper electrophoretic pattern of plasma proteins. Note the very low albumin fraction as compared with alpha globulin.

After 4 days of dextran infusions a prolonged bout of epistaxis occurred and continued intermittently for approximately 8 hours, despite nasal packing and other measures. Hematologic studies revealed a coagulation time greater than 45 minutes (6 to 15 minutes normal), clot retraction time greater than 4 hours (2 hours normal), plasma recalcification time 298.4 seconds (135 seconds normal), and a low fibrinogen titer of 1:32 (1 to 128 normal). The blood pressure was 140/110.

His subsequent course was characterized by a poor response to all medications including steroids. However, dextran continued to produce dramatic, almost immediate diuresis when employed. No further hemorrhagic episodes resulted from its subsequent usage.

The final admission to this hospital was in June, 1958. His response to treatment was again unsatisfactory, although a transient diuresis resulted from 12 per cent dextran infusions. On July 22 the patient was transferred to another institution for continuation of treatment without cost to the family. On the second day following transfer the patient complained of aching pain in the right hip with localized tenderness over the greater trochanter. A definite cause for this complaint could not be found. Two days later, on the fourth hospital day, the patient became febrile and a swelling of the right thigh was diagnosed as thrombophlebitis. Penicillin therapy, which had been started on the day of admission, was continued,

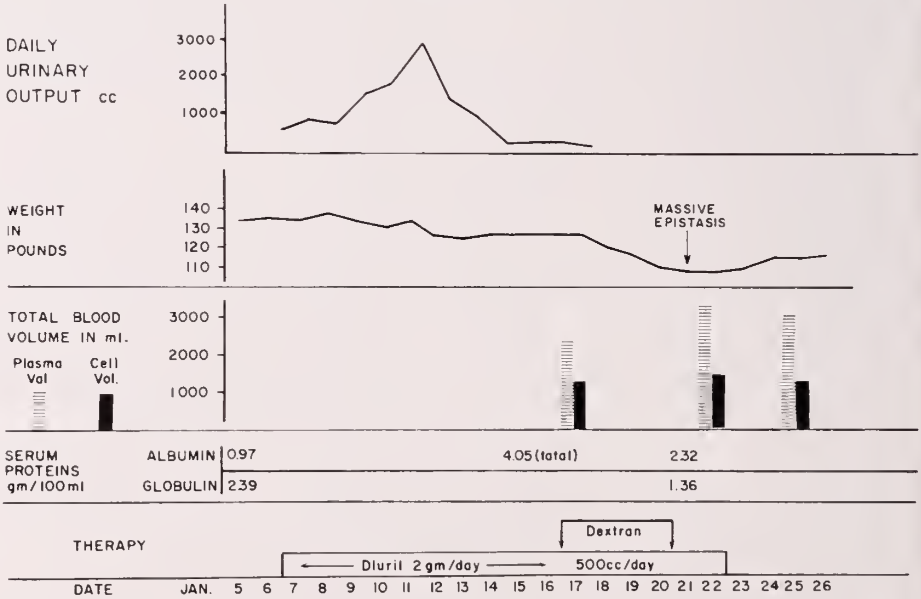

Fig. 4. Case 1. Diagram of clinical course during third admission when a severe epistaxis occurred after 4 days of intravenous dextran therapy. Note the expanded blood volume during the bleeding episode.

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* Twelve per cent Dextran was kindly supplied by Dr. Arnold E. Osterberg of the Abbott Laboratories, North Chicago, Illinois.

but full anticoagulant therapy was withheld because of prolonged clotting time due to an absence of accelerator globulin. The infectious process continued despite penicillin and streptomycin therapy, which was changed to intravenous chloromycetin after identification of *E. coli* in the blood culture. However, the patient continued a rapid and fulminant downhill course and expired on the morning of the seventh hospital day.

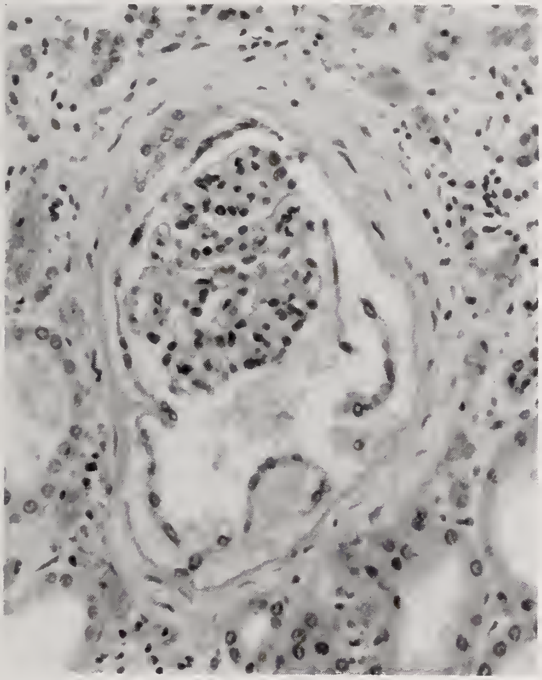

FIG. 5. Case 1. Postmortem section of kidney showing proliferation of glomerular capsule.

The gross autopsy findings were nonspecific. No evident thrombophlebitis or thrombosis could be found; all of the larger leg veins were patent. The gastrointestinal tract was edematous throughout with some bullae. No active duodenal ulcer crater was identified. The heart was dilated. There was some pleural fluid present.

The kidneys were large and pale with some green staining of the cortex on cut section. On microscopic examination the glomerular basement membranes were thickened in only a few areas (figure 5). The remainder of the microscopic (renal) picture was normal. Postmortem blood cultures were sterile.

Case 2. J. B., a 5-year-old boy, was admitted on July 30, 1957, on the ninth day of his illness, which began with swelling of the eyes and face, abdominal pain, anorexia, fever and vomiting. No previous or similar episode of edema had been experienced in the past. The only other illness was mild bronchial asthma which had been present since the age of 2 years. There was no family history of allergy.

On physical examination the outstanding findings were moderate facial and pretibial edema. The abdomen was protuberant.

Laboratory studies revealed hypoalbuminemia, albuminuria and hypercholesterolemia.

The initial treatment consisted of daily oral administration of prednisolone, 30 mg. for 1 week followed by 20 mg. for 6 days, after which the dosage was tapered down to 10 mg. daily. After only 2 days of prednisolone the patient's edema began to subside. He reached his pre-edema weight of 40 lbs. within 5 days of therapy and remained stabilized for the final 18 days of his hospital course. The loss of edema was accompanied by a simultaneous clinical improvement with increased urinary output, increase in plasma albumin, and cessation of albuminuria (figure 6). When checked 1 year later he was attending school and in apparently good health.*

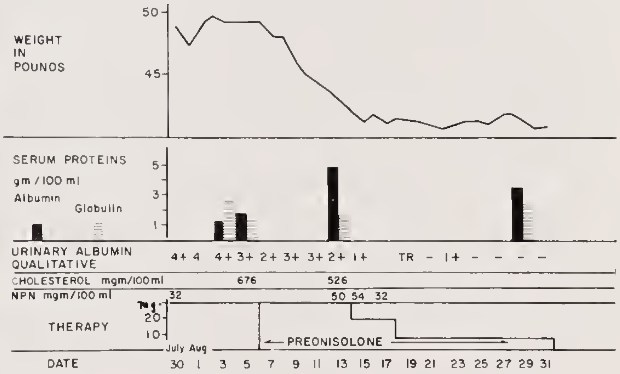

FIG. 6. Case 2. Summary of hospital course. The dramatic weight loss following 7 days of prednisolone therapy is shown. Note increased plasma protein levels and cessation of proteinuria after diuresis.

DISCUSSION

The nephrotic syndrome is a capricious disease occurring chiefly in childhood and usually characterized by exacerbations and remissions. In young children the etiology is usually quite obscure. This is not entirely true in adults and older children, in whom an underlying primary pathologic process (i.e., nephritis, amyloidosis, lupus erythematosus) is relatively more commonly found.[10, 11]

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* Since the preparation of this manuscript this boy has had 2 mild attacks of nephrotic edema associated with proteinuria. On each occasion an increase in the maintenance dosage of steroid therapy resulted in a satisfactory clinical response.

Although the prognosis of nephrosis is uncertain in any individual case, signs of nitrogen retention, persistent hematuria and hypertension worsen the long-term outlook. Heavy and persistent proteinuria with poor response to adrenal corticosteroids is also prognostically discouraging.[6] Barnett and Eder[4] attempted to correlate mortality rates with age of onset of nephrotic symptoms. They concluded from a small series in which there seemed to be no abrupt change in mortality rate from childhood to adulthood that the age of the patient at the onset of the disease was a valuable prognostic factor.

The uncertainty in the etiology and prognosis of nephrosis has resulted in a wide variety of treatment regimens directed toward the symptomatic relief of edema. Whole blood and plasma transfusions have been used to promote diuresis through an increase of plasma osmotic pressures. Concentrated serum albumin was later used for the same purpose.[12] Likewise, the intravenous administration of hyperosmotic dextran often effects a dramatic though temporary loss of edema.[13] Nitrogen mustard[14] and ion exchange resins[15, 16] sometimes are used. The induction of measles by intimate exposure was formerly practiced and often followed by a clinical remission.[17, 18]

Today the consensus among experienced clinicians and investigators is that the corticosteroids are the drugs of choice in nephrosis therapy.[2-7, 19-28] Not only do these agents induce more lasting clinical remissions from edema and laboratory abnormalities, but they also may suppress the degenerative processes primarily responsible for the disease.

The 12-year-old boy described in this report did not once, over the course of a year's treatment, evidence a completely satisfactory and sustained remission. This is not altogether surprising because of the relatively late onset of the disease in his case. He never showed more than transitory laboratory evidence of renal impairment. The blood nonprotein nitrogen and blood pressure remained essentially normal with only occasional microscopic hematuria. During his initial hospitalization the boy eventually lost 16 lbs. of edematous fluid. This weight loss may have been greater and more prompt with larger initial doses of steroid hormone. However, the range of effective dosage is so wide in individual cases that we preferred to use a moderate dose.

It is interesting to contrast the resistant course of G. W. with the younger patient (J. B.) who responded satisfactorily to steroid therapy. In young children the general outlook is better, but the prognosis is always guarded. The duration of the active stage of the disease has been reported as short as 6 weeks and as long as 5 or more years.[6] The sex incidence of nephrosis is considerably higher in males. Both patients were allergic as manifested by perennial allergic rhinitis in one and bronchial asthma in the other. It is recognized that the incidence of allergic disorders among nephrotic patients is higher than in the general population. What part, if any, this plays in the pathogenesis of the disease is unknown.

Characteristically the management of edema was one of the most difficult problems encountered in the therapy of G. W. Only during the first course of prednisolone did a temporary diuresis result from corticosteroids. After a duodenal perforation occurred during the fourth month of steroid therapy full doses of this drug were considered hazardous.

In the meanwhile the patient's edema accumulated rapidly, at times as fast as 1,500 Gm. per day. At the height of edema, ascites began to cause some respiratory embarrassment. Pleural effusion, although uncommon in nephrosis, occurred in this patient, further impairing pulmonary function. Of some concern was his demonstration of periodic melancholia during edematous episodes which disappeared under effective diuresis. Whether his emotional depression was a purely psychic phenomenon is not clear. His expressed concern of his illness as a threat to life and anxiety about his body image support a psychic cause. Another possibility is that edema of the brain influenced his emotional stability through a direct cortical effect.

Since edema was so disturbing to the boy, its symptomatic relief was repeatedly attempted. Chlorothiazide (Diuril) was ineffective as a diuretic. Schreiner[25] was able to produce a substantial diuresis in 9 of 16 courses given to 14 patients with nephrotic syndrome of varying etiology. Satisfactory weight control was established in several of his patients by continuous administration of the drug on an intermittent schedule. Our patient's failure to have satisfactory diuresis while on Diuril may have been related to his low serum albumin levels. According to Schreiner, in most nephrotic patients there is a critical level of serum albumin below which no diuresis can be achieved by any agent. This level varies with the individual but seems to be in the range of 1.5 to 2.5 Gm. per 100 ml. of blood.

One agent, 12 per cent dextran, was consistently provocative of good diuresis. Three or 4 daily intravenous infusions of 500 c.c. each were sufficient for massive water loss, but the effect was discouragingly temporary in that the gradual return of edema started shortly after discontinuance of the agent.

Probable steroid-induced duodenal perforation. The first patient (G. W.) experienced a duodenal perforation after 96 days of continuous prednisolone therapy in daily dosages ranging from 10 to 50 mg. It is interesting to note that a diuresis started 3 days before the acute perforation. At this time daily prednisolone dosage had been decreased to 15 mg., and there had been an increase in daily urinary volume more than triple the previous output (figure 2).

Duodenal perforation during steroid therapy for nephrosis is rare. In the personal experiences of McCrory,[22] Riley,[23] Barnett[24] and Guild[10] only 1 child with nephrosis suffered a probable steroid-induced duodenal perforation. A review of peptic ulcer in 215 rheumatoid arthritis cases treated with cortisone between 1951 and 1955 disclosed only 2 cases of intestinal perforations, both of whom were adults.[26-31] Among 141 arthritis patients receiving prolonged therapy with prednisolone and prednisone Boland[32] reported 9 peptic ulcers. Although the incidence of steroid-induced perforation of peptic ulcer is extremely rare in childhood, the possibility must always be considered in long-term therapy of this type.

Dextran-induced coagulation defect. A severe nasal hemorrhage occurred during G. W.'s (case 1) first course of 12 per cent dextran infusion on the fourth day of consecutive 500 c.c. amounts. A prolonged coagulation and plasma recalcification time was noted with a decreased fibrinogen titer (1:32). Whether the nasal hemorrhage was caused by the expanded plasma volume and transient hypertension or by the coagulation defect, or both, could not be determined. It is probable, however, that the expanded plasma volume produced the rupture of a nasal blood vessel after which the clotting defect impaired cessation of bleeding.

The exact nature of the hemorrhagic tendency occurring during dextran infusions is not entirely understood. In this patient a low fibrinogen titer was found which rose after discontinuance of dextran. Simple mixing experiments with appropriate controls have revealed that the formation of a precipitate occurs in vitro when 6 per cent dextran and 1.45 per cent fibrinogen are mixed. Thirteen per cent of the available fibrinogen is locked in the precipitate under the above conditions.[33] Weil[34] has attributed the hemostatic defect resulting from dextran administration to fibrinogenopenia. According to Longdell[35] the prolongation of bleeding time is somehow related to the molecular weight of dextran. The higher the molecular weight the more likely prolonged bleeding will occur. Another hazard in the full use of dextran is its allergenic property under certain conditions.[36] It seems clear that, although dextran may cause a temporary clinical diuresis in nephrotic patients, the hazards of its use are limiting and caution is warranted whenever its administration in large amounts is considered.

Infections in the nephrotic patient. Nephrotic patients are characteristically susceptible to severe bacterial infections, the control of which may at times be of more immediate concern than the underlying disease itself. Fortunately, chemotherapeutic and antibiotic agents have lowered significantly the mortality from infections. Although the pneumococcus predominates as the infecting organism, other bacteria, particularly *Escherichia coli*, are often implicated. For this reason a broad spectrum antibiotic should be used until the causative organism can be isolated. Prophylactic antibiotics may be of value during the winter months.

Occasional fulminating infections are fatal despite vigorous therapeutic effort. In our reported patient, severe hip pain followed by swelling of the right thigh with fever pointed toward a thrombophlebitis. The pure growth of *E. coli* in several rich colonies supported the impression of a secondary septicemia. The rapid downhill course suggested either poor host resistance or a highly virulent causative organism not sensitive to the antibiotics used.

SUMMARY

Two cases of nephrotic syndrome have been reported in whom the clinical courses were contrastingly dissimilar. A 12-year-old male responded poorly to steroid therapy. Complications which occurred during the course of his disease are discussed. A perforating peptic ulcer developed during steroid therapy, and a prolonged epistaxis followed intravenous dextran infusions. Continuous efforts to control edema were necessary to allay his anxieties over fluid accumulation. An ill-defined infection occurring 13 months after the onset of his refractory nephrotic syndrome resulted in death.

The clinical course of the patient is compared with that of a second 5-year-old child whose response to therapy was prompt and satisfactory.

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BIBLIOGRAPHY

1. BARNETT, H. L., FORMAN, C. W., AND LAUSON, H. D.: Nephrotic syndrome in children, in Levine, S. Z., and others, editors: Advances in Pediatrics. Chicago: Yr. Bk. Pub., 1952, vol. 5.
2. HINCHMAN, D. F.: Henry Ford Hosp. Med. Bull., 1957, **5**, 31.
3. RILEY, C. M., AND DAVIS, R. A.: Pediat. Clin. North America, 1955, **2**, 893.
4. BARNETT, H. L., AND EDER, H. A.: J. Chron. Dis., 1957, **5**, 108.
5. O'HORA, B. A.: Henry Ford Hosp. Med. Bull., 1953, **1**, 21.
6. BARNETT, H. L., AND SHIBUYA, M.: Postgraduate Med., 1954, **15**, 362.
7. LORENZ, E.: Wien. klin. Wchnschr., 1954, **66**, 62; abstracted, J.A.M.A., 1954, **155**, 524.
8. MCQUARRIE, I., editor: Brennemann's Practice of Pediatrics. Hagerstown, Md.: Prior, 1957, **3**, 24.
9. BARNETT, H. L., AND METCOFF, J.: Pediatrics, 1955, **15**, 353.
10. GUILD, H. G.: Personal communication.
11. HOLT, L. E., JR., AND MCINTOSH, R.: Holt Pediatrics, 12th ed. New York: Appleton, 1953, p. 899.
12. LUETSCHER, J. A., HALL, A. D., AND KREMER, V. L.: J. Clin. Invest., 1949, **28**, 700.
13. JAMES, J., GORDILLO, G., AND METCOFF, J.: Ibid., 1954, **33**, 1346.
14. KELLEY, V. C., AND PANOS, T. C.: J. Pediat., 1952, **41**, 505.
15. DUNCAN, L. E., JR.: Am. J. Med., 1953, **14**, 425.
16. ROSENHEIM, M. L., AND SPENCER, A. G.: Lancet, 1956, **2**, 313.
17. JANEWAY, C. A.: J. Am. Physicians, 1949, **61**, 108.
18. ROSENBLUM, A. H., LANDER, H. B., AND FISHER, R. M.: J. Pediat., 1949, **35**, 574.
19. HOLLANDER, J. L.: Prednisone and prednisolone: newest corticosteroids. Merck Report, October 1955.
20. GOODMAN, H. C., AND BAXTER, J. H.: J.A.M.A., 1957, **165**, 1798.
21. RILEY, C. M.: Ann. New York Acad. Sc., 1955, **61**, 430.
22. MCCRORY, W. W.: Personal communication.
23. RILEY, C.: Personal communication.
24. BARNETT, H. L.: Personal communication.
25. SCHREINER, G. E.: M. Ann. District of Columbia, 1957, **26**, 623.
26. BOLLET, A. J., BLACK, R. L., AND BUNIM, J. J.: J.A.M.A., 1955, **158**, 459.
27. FREYBERG, R. H., AND OTHERS: Ibid., 1951, **147**, 1538.
28. WEST, H. F., AND NEWNS, G. R.: Lancet, 1952, **2**, 515.
29. COPEMAN, W. S. C., AND OTHERS: Brit. M. J., 1954, **1**, 1109.
30. ENGLEMAN, E. P., AND OTHERS: California Med., 1954, **80**, 369; correction 1954, **80**, 454.
31. BUNIM, J. J., ZIFF, M., AND MCEWEN, C.: Am. J. Med., 1955, **18**, 27.
32. BOLAND, E. W.: J.A.M.A., 1956, **160**, 613.
33. RICKETTS, C. R.: Nature, London, 1952, **169**, 970.
34. WEIL, P. G.: Investigation on hemostatic defect due to dextran. Proc. Sixth International Congress of the International Society of Hematology, 1956, p. 351.
35. LONGDELL, R. D., ADELSON, E., FURTH, F. W., AND CROSBY, W. H.: J.A.M.A., 1958, **166**, 346.
36. KABAT, E. A., AND BERG, D.: J. Immunol., 1953, **70**, 514.

KLINEFELTER'S SYNDROME

Newer Aspects

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In 1942 Klinefelter[1] described the symptom-complex which bears his name. As originally depicted this is a syndrome of "gynecomastia, aspermatogenesis without a-Leydigism and increased excretion of follicle-stimulating hormone." Shortly thereafter, in 1945, Heller and Nelson[2, 3] added to our knowledge of this disease by a report on 20 patients studied by them in a single year. These workers pointed out that gynecomastia did not occur in all patients with this disease and that this disease represents the most common cause of male eunuchoidism.

It has become apparent that the disease is not well known by the medical profession in general, that certain symptoms have not been given proper emphasis as an integral part of the disease, and that this disease is closely related to true hermaphroditism and Turner's syndrome.[4, 5, 6] Since 1953 5 cases of Klinefelter's syndrome have been studied and treated in the Endocrine Clinic and wards of Freedmen's Hospital.

Methods

All patients were subjected to a general examination, including anthropometric analysis, semen analysis, and testicular biopsy. The breasts were amputated in 2 cases. Semen specimens were obtained by masturbation after a minimum of 5 days' abstinence. Specimens were collected in glass jars which had been cleansed in hot water and air-dried. Normal semen specimens collected in this fashion yield volumes of 4 to 10 ml. and contain at least 60,000,000 spermatozoa per ml. Twenty-four hour urine specimens were studied for gonadotropin and 17-ketosteroid excretions. Gonadotropins were estimated by the method of Klinefelter and Albright,[7] with normal values ranging from 6 to 50 mouse uterine units. Analysis of 17-ketosteroids was made by the method of Callow and Callow,[8] which gives a value in our hands of 15 to 20 mg. per 24 hours for normal men.

Report of Cases

W. G. was seen on July 24, 1954 in Freedmen's Hospital, complaining of painful enlargement of the right breast and impotence of 1 year's duration. He was married and childless. Physical examination revealed a dull, 31-year-old asthenic Negro. The right breast was moderately enlarged and presented a tender subareolar button. The testes were small and firm. The hair pattern and anthropometry were within normal limits. A sperm specimen revealed a volume of 2 ml. and azoöspermia. Urinary 17-ketosteroid excretion was 10 mg. in 24 hours, and gonadotropin excretion was 180 mouse units in 24 hours (June 13, 1956).

On July 27, 1954 the enlarged right breast was amputated and biopsy of a testis made. The testicular biopsy revealed small, atrophic, inactive tubules and slight increase in the Leydig cells (figure 1). Genetic sex was determined to be male by skin biopsy[9] and leukocyte morphology.[10, 11] Subsequently the left breast became enlarged and painful. The left breast was removed surgically on July 31, 1957 (figure 2).

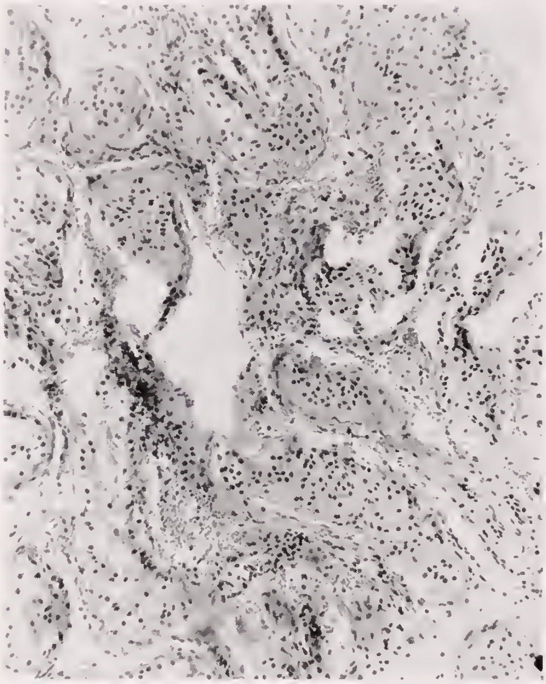

Fig. 1. Case W. G. Testes showing aspermatogenesis, tubular hyalinization and slight increase in interstitial stroma with scattered Leydig cells.

J. M. M. was admitted to Freedmen's Hospital on July 9, 1956 complaining of frequent syncopal attacks which began in 1943. These attacks lasted 2 to 3 minutes with the exception of 1 attack which had lasted between 20 and 30 minutes. This patient had been aware of small testes since childhood. He was married and childless. Examination revealed a 50-year-old Negro of medium build who looked far younger than his stated age. Axillary and pubic hair were sparse. The penis was of normal size, and the testes were quite small. A sperm specimen had a volume of 2 ml. and contained no spermatozoa. Urinary excretion of 17-ketosteroids was 4.2 mg. and of gonadotropins 160 mouse units on July 12, 1956. Genetic sex as determined by leukocytic morphology was female. Testicular biopsy revealed marked hyalinization of the spermatogenic tubules with marked hyperplasia and clumping of the Leydig cells. Many of the Leydig cells were abnormal, having huge nuclei and abundant foamy cytoplasm containing hyaline inclusions. An electroencephalogram was normal.

This patient was placed on methyl testosterone in 1956 and has had no syncopal attack since institution of therapy. In early 1958 he began to experience loss of sexual potency, and therefore his dose of methyl testosterone was increased. However, on February 24, 1958 this patient was readmitted to the Hospital with a fracture of his right fibula sustained during a misstep at a curb. It was thought that this was a pathologic fracture secondary to osteoporosis from prolonged androgen deprivation. The X-ray films were not conclusive for this diagnosis. The fracture healed without incident.

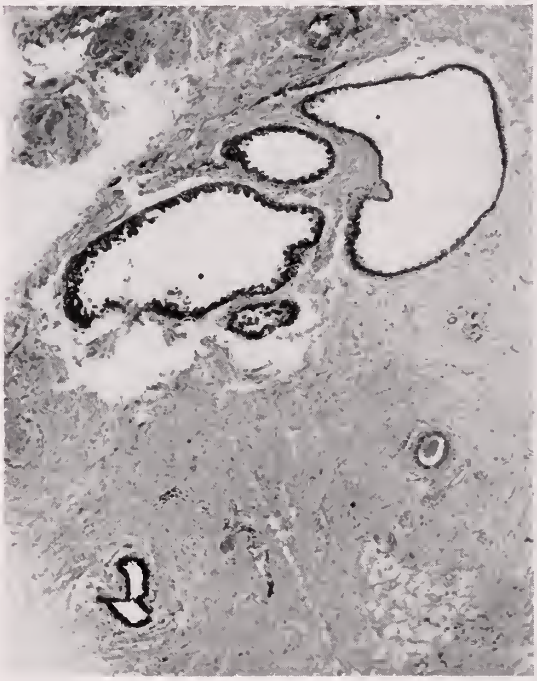

Fig. 2. Case W. G. Breast gynecomastia showing dilated ducts lined by tall eosinophilic epithelium of apocrine type.

W. H. H. was admitted to Freedmen's Hospital on November 3, 1956 complaining of headache, dizziness, narcolepsy, impotence and painful swelling of the breasts of 6 months' duration. He had had gynecomastia at least since 1951 with an episode of painful swelling in 1952. At that time he was admitted to another D. C. hospital where a diagnosis of Klinefelter's disease was confirmed by testicular biopsy. The slides have been reviewed by us and reveal extreme hyalinization of the tubules with pseudo-adenomatous hyperplasia of the Leydig cells.

In 1949 a diagnosis of Buerger's disease was established in a hospital in another city. In 1952 he received antiluetic treatment at a D. C. hospital.

Examination revealed a dull, asthenic Negro 50 years of age who appeared to be about 35 years old. His span exceeded his height by $5\frac{1}{2}$ inches. Facial hair was practically absent; axillary and pubic hair were very scant. Bilaterally enlarged, tender breasts were noted. The penis was of normal size; both testes were very small. Scars of previous appendectomy (1948) and left-sided cervical sympathectomy for Buerger's disease (1956) were noted. The terminal digit of the left ring finger had been amputated also for Buerger's disease (1956).

A semen specimen (November 19, 1956) revealed a volume of 2 ml. and azoöspermia. Urinary 17-ketosteroid and gonadotropin excretions were measured and were 5.09 mg. and 120 mouse units respectively. Genetic sex by leukocyte morphology was female.

An electroencephalogram done in 1949 at a hospital in another city was reported as revealing a deep anterior focus.

Under testosterone therapy he improved greatly. The headache, dizziness and impotence disappeared. The tenderness of the breast abated, but the size of the breasts remained unchanged. Narcolepsy is only rarely evident.

W. E. B. was admitted on March 6, 1957 complaining of headaches, impotence, sterility and "seizures" characterized by violent and destructive behavior of 2 years' duration. He was married and childless. On examination he proved to be an asthenic Negro, 23 years of age, who appeared to be 14 or 15 years of age. His voice was feminine in pitch. He had no facial hair; axillary hair was scanty; pubic hair was sparse with a female pattern. The penis was of normal size; the testes were very small. Urinary 17-ketosteroid excretion was 9.20 mg. and 8.37 mg. on February 11 and March 5, 1957, respectively; gonadotropin excretion was 160 mouse units. Genetic sex by leukocyte morphology was female. Testicular biopsy revealed inactive, partially hyalinized tubules with clumping of Leydig cells.

An electroencephalogram on March 13, 1957 revealed a bilateral occipital focus presenting irregular and biphasic sharp waves occurring at a rate of 4 to 6 per second.

W. E. B. has been lost to follow-up since discharge from the hospital.

R. L. was seen privately by one of us (W. L. H.) complaining of gynecomastia present for about 27 years but recently becoming painful. In addition, he had begun in the last year to have flushes, sweats, palpitation, and diminution in sexual potency. He was married and childless. Examination of this 55-year-old Negro revealed enlarged breasts the size of those of an average pubescent girl. The testes were small and firm. His height was 71 inches, his span $77\frac{1}{2}$ inches. A sperm specimen measured 0.5 ml. and contained no spermatozoa.

Urinary excretion of 17-ketosteroids was 7.7 mg. and gonadotropin excretion 120 mouse units (May 22, 1958). Genetic sex by leukocyte morphology was female. After 6 weeks of therapy with methyl testosterone which relieved his impotence and climacteric symptoms he was admitted to Freedmen's Hospital for excision of the breasts and testicular biopsy. The breasts revealed increase of periductal stroma and some increase in ductal tissue (figure 3). The testes revealed tubules composed only of basement membrane with faintly hyalinized connective tissue and stroma containing many Leydig cells (figure 4).

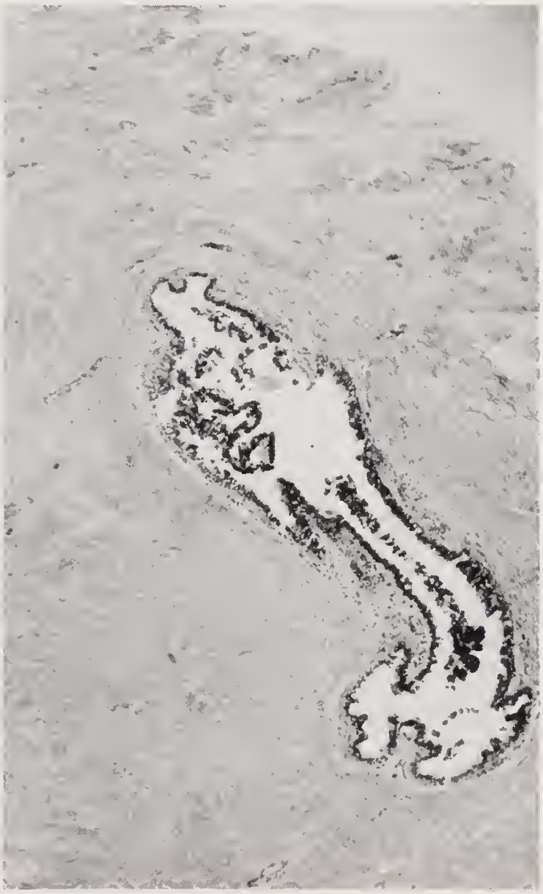

FIG. 3. Case R. L. Breast gynecomastia with ductal epithelial hyperplasia and marked interductal sclerosis.

This patient is doing quite well on a maintenance dose of methyl testosterone.

DISCUSSION

The gynecomastia of the Klinefelter syndrome remains an enigma. The histologic appearance suggests that it is due primarily to testosterone in view of the predominance of periductal stromal reaction. It may be important to note its similarity to puberal gynecomastia which results at the onset of testosterone secretion. In both of these situations the function of the spermatogenic tubule is deficient, in one case because of a destructive pathologic change, in the other because of immaturity. Whether the tubules produce inhibin, a second hormone, which ordinarily modifies the effect of testosterone on the breast, as suggested by Klinefelter, still remains unproved. It is certain that the administration of testosterone causes a greater excretion of estrogen in the castrate female and the eunuchoidal male than in the normal male. This fact suggests that the spermatogenic tubule modifies the metabolism of testosterone to reduce the potential estrogen produced from testosterone. In the syndrome under discussion even though the total estrogen excretion is not higher than normal, the ratio of estrogen to androgen is higher than normal, and it may be this disturbance in ratio which sets the endocrine background for gynecomastia. The lowered androgen production is suggested by our low 17-ketosteroid excretions plus symptoms of androgen deficit which we will discuss later.

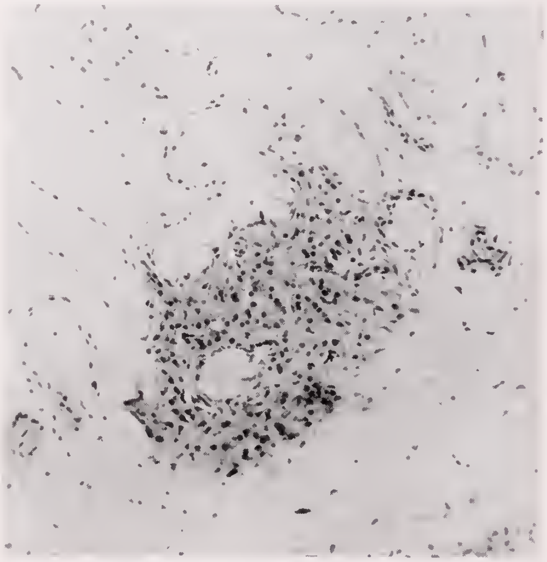

FIG. 4. Case R. L. Testes illustrating complete aspermatogenesis, tubular atrophy and focal aggregates of Leydig cells.

The gynecomastia may be unilateral initially as seen in our first case. In addition, it may appear much later in life than originally described by Klinefelter as shown in our first, second and fifth cases. The appearance of local tenderness and/or pain in the breast seems to be associated with increasing Leydig-cell failure as evidenced by its prompt response to androgen therapy as well as its association with other signs of Leydig cell failure.

Treatment of the enlarged breasts by the use of testosterone estrogen, or progesterone fails uniformly to reduce the size of the breasts. Surgery is the only satisfactory treatment of this problem.

Syncope is probably an integral part of this disease. Fainting is recognized as a symptom of the climacteric, whether the individual is male or female. It is noteworthy that Klinefelter's fourth case suffered from syncopal attacks lasting up to 20 minutes and that these attacks ceased with the onset of puberty (which means, of course, the onset of Leydig-cell secretion). Our second case had frequent syncopal attacks for 13 years before his diagnosis was made. He has had no attack of this sort since being placed on androgen therapy. It would appear that the syncope is responsive to endogenous or exogenous androgen.

Narcolepsy deserves mention. Klinefelter's sixth case suffered from narcolepsy. Our third patient had narcolepsy. This improved on androgen therapy but did not disappear.

In a study of the psychopathology of 31 patients with Klinefelter's disease Pasqualini[12] reported an average I. Q. of 81. Our patients were uniformly dull normal individuals. In 3 patients electroencephalograms were obtained and were abnormal in 2 instances. The 2 abnormal ones were not similar and so afford us no additional insight into the pathogenesis of the disease.

The uniform complaint of impotence, plus the finding of youthful appearance and scanty body hair, emphasizes the Leydig-cell failure which is invariably a part of the syndrome. In addition, headache, dizziness, hot flashes and palpitation are occasional complaints in most of these patients at some time, bespeaking androgen lack readily amenable to androgen therapy.

Studies of genetic sex indicate that true hermaphroditism, Turner's syndrome, and Klinefelter's syndrome are closely related examples of sex inversion. At the third fetal month the human gonad is in an undifferentiated state. If the medulla of the gonad develops a male reproductive tract will follow. If the cortex develops a female reproductive tract appears. If both cortex and medulla are suppressed, a female reproductive tract appears.[13] The true hermaphrodite represents an individual in whom cortical and medullary portions of the primitive gonad develop in a fairly complete fashion. In Turner's syndrome both cortical and medullary components of the gonad fail to develop. This may account for the appearance of a female reproductive tract in genetic males. In Klinefelter's syndrome only the medullary portion of the gonad develops and this in an imperfect fashion. Should this accident occur in a genetic female, an apparent male or pseudomale with female genetic pattern would appear. This appears to be the case in at least two-thirds of the patients with Klinefelter's syndrome studied in this fashion. In our series 4 out of 5 patients are of female genetic sex. This situation is, of course, the most extreme degree of sexual inversion, representing as it does the development of an imperfect male gonad in place of a female gonad in an individual genetically intended to be female.

The problem of why the gonadal cortex fails to develop in a genetic female is an unsolved one. The presence of overripe ova with resultant scarcity of primordial germ cells in the genital ridge has been suggested as a cause by the amphibian experiments of Witschi.[14]

The pathologic studies of the testes uniformly revealed fibrosis and hyalinization of the spermatogenic tubules, thickening of the basement membrane of the tubules, absence of anything more than the most abortive attempts at spermatogenesis, and overgrowth of the Leydig cells. In the last 4 cases the Leydig cells were histologically abnormal as evidenced by the large size and foamy cytoplasm. These same patients presented a much greater degree of hyalinization and disruption of spermatogenesis than did patient number one (W. G.). He was genetically a male, the others genetically female. The histologic differences noted on biopsy are consistent with the more detailed report on this subject by Ferguson, Smith et al.[15]

SUMMARY

We have presented 5 cases of Klinefelter's syndrome which emphasize the well known features of the disease and suggest that certain less emphasized features are not happenstance. Further, we have cited the relation of Klinefelter's syndrome to Turner's syndrome and true hermaphroditism.

BIBLIOGRAPHY

1. Klinefelter, H. F., Reifenstein, E. C., Jr., and Albright, F.: J. Clin. Endocrinol., 1942, **2**, 615.
2. Nelson, W. O., and Heller, C. G.: Ibid., 1945, **5**, 13.
3. Heller, C. G., and Nelson, W. O.: Ibid., 1945, **5**, 1 and 27.
4. Segal, S. J., and Nelson, W. O.: Ibid., 1957, **17**, 676.
5. Grumbach, M. M., Blanc, W. A., and Engle, E. T.: Ibid., 1957, **17**, 703.
6. Witschi, E., Nelson, W. O., and Segal, S. J.: Ibid., 1957, **17**, 737.
7. Klinefelter, H. F., Albright, F., and Griswold, G. C.: Ibid., 1943, **3**, 529.
8. Callow, N. H., Callow, R. K., and Emmens, C. W.: Biochem. J., 1938, **32**, 1312.
9. Barr, M. L.: Anat. Rec., 1955, **121**, 387.
10. Davidson, W. M. (London), and Smith, D. R.: Brit. M. J., 1954, **2**, 6.
11. Sun, L. C. Y., and Rakoff, A. E.: J. Clin. Endocrinol., 1956, **16**, 55.
12. Pasqualini, R. Q., Vidal, G., and Bur, G. E.: Lancet, 1957, **2**, 164.
13. Jost, A.: Recent Progr. Hormone Res., 1953, **8**, 379.
14. Witschi, E.: Cancer Res., 1952, **12**, 763.
15. Ferguson-Smith, M. A., Lennox, B., Mack, W. S., and Stewart, J. S.: Lancet, 1957, **2**, 167.

PERFORATIVE APPENDICITIS IN PREGNANCY AND THE PUERPERIUM

Report of a Case

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APPENDICITIS in pregnancy represents a real threat to maternal and fetal life. Maternal death may be due to perforative appendicitis occurring late in pregnancy or in the puerperium. Since the condition is rare in these circumstances, awareness is essential to early diagnosis and is the keynote to successful management.

Some of the inherent difficulties encountered in the diagnosis of a perforated appendix in late pregnancy are revealed in the following case presentation.

Report of Case

This 24-year-old Para III, gravida IV Negress was hospitalized after approximately 12½ hours of labor. She was 32 to 34 weeks in gestation with a history of no prenatal care. On admission her complaints were abdominal pain, dysuria, urinary frequency, passage of cloudy urine, anorexia, nausea and vomiting. The abdominal pain had been present for a week and had increased in severity 3 days prior to admission with radiation to the flanks.

On examination the temperature was found to be 101°F, the blood pressure 118/70, the pulse rate 112, and the respiratory rate 28 per minute, and the patient appeared somewhat apprehensive. The abdomen was the size of a 34 weeks' gestation. Uterine contractions were present, but the pain was continuous and not typical of labor. The uterus had no ligneous quality. The fetal presentation was cephalic and the fetal heart tones were 160 per minute. Bilateral costovertebral angle tenderness was present. There was no significant rebound tenderness, although some tenderness was elicited on palpation in the lower right and left abdominal quadrants. Rectal examination revealed no cervical dilatation or effacement.

Microscopic examination of the urine showed a few pus cells per hpf. and the white blood cells numbered 15,200 per cu. mm. of blood. No differential smear was made.

The clinical impression at this time was: (1) pyelitis of pregnancy, (2) cystitis and ascending infection, and (3) early premature labor.

The patient was placed on antibiotics and chemotherapy. Approximately 25½ hours after admission a 4 lb., 3 oz. male was delivered spontaneously in fair condition. Abdominal soreness with slight abdominal distention was noted on the first postpartum day. Thirty-two hours postpartum vomiting with generalized abdominal pain ensued and increased distention was noted. The patient was intubated and an enema given.

At 9:00 a.m. on the second postpartum day the patient was found in shock. The abdomen was distended, and the presence of rebound tenderness was equivocal. Antishock measures were immediately instituted.

It was thought that the patient had an acute abdomen, and laparotomy was performed.

At surgery a ruptured appendiceal abscess was found. The cecum was located at the level of the umbilicus with the abscess located posterior to the cecum. The omentum was thickened and was situated anterior to the uterine fundus. Approximately 1,500 c.c. of greyish brown, foul fluid was suctioned from the peritoneal cavity. The remnant of the appendix was ligated with catgut. Penrose drains were placed in the area of the cecum and toward the liver and diaphragm and were brought out through a lateral stab wound.

The first 3 days after operation were somewhat stormy and characterized by electrolyte imbalance, as well as oliguria. A mild basilar pneumonitis developed, but there was no evidence of subdiaphragmatic or subhepatic abscess formation. On the fifth postoperative day the urinary output was 2,400 c.c. per 24 hours, the temperature was normal, and the patient was alert and responsive and on a regular diet. Secondary closure of the abdominal wound was performed on the fourteenth postoperative day, after which she was discharged to the outpatient clinic for further follow-up care.

Discussion

It has been stated that appendicitis is an uncommon complication of pregnancy[1]; however, some believe that it is probably no less frequent than in the nonpregnant female. Perforative appendicitis as a complication of pregnancy or the puerperium is rare. Although rare, its occurrence represents an obstetrical tragedy and is often fatal. At New York Lying-In Hospital between 1932 and 1942 2 maternal deaths were reported following ruptured appendix at or near term.[2] In contradistinction, no deaths were reported at this large center in nonperforative cases. Priddle and Hesseltine[3] reported 36 undelivered cases of pregnancy and appendicitis with 1 maternal death occurring near term with a perforated appendix.

Fetal mortality in the acute phase of the illness with disease limited to the appendix is reported by Hoffman et al[4] as 7.2 per cent, but when the disease has extended beyond the confines of the appendix the fetal mortality increased to 33.3 per cent. An average figure for fetal loss when the diagnosis is made early, that is, before the sixth month, and surgical treatment instituted, is 6 to 20 per cent.[5] As the disease progresses fetal loss may increase to over 50 per cent.

Abortion and premature labor are also more common—40 to 80 per cent.[6] Neither can be directly related to surgery but are apparently due to the effects of infection and increased uterine irritability.

There is unanimity of opinion of all authors regarding the difficulty in diagnosis of appendicitis in pregnancy. As pregnancy advances the large serosal area afforded by the enlarged uterus, as well as the increased pelvic vascularity, promotes spread of infection. In addition, the walling-off process by the intestines and omentum is obviated by the change in position of the cecum and intestines in the presence of an enlarged uterus.

The clinician's attention may be misdirected to the more common complications of late pregnancy and the puerperium, such as pyelonephritis, endometritis, and phlebitis. Indeed, the symptoms and signs may mimic these entities and cause further delay in diagnosis, the factor to which maternal mortality can be directly attributed.

In the nonpregnant state appendicitis classically has protean manifestations. A reliable history of anorexia, nausea and vomiting associated with periumbilical pain and localization in the right lower quadrant with rectus muscle splinting and rebound tenderness is highly regarded in the diagnosis of acute appendicitis. Admittedly, this represents the so-called typical atypical case, but these classical findings are missing in pregnancy after the sixth month. These classical findings are due to irritation of the parietal peritoneum which is shielded by the enlarging uterus with the advancement of pregnancy, vitiating the examiner's findings in arriving at the diagnosis.

This patient had a ruptured appendix with retrocecal abscess formation with symptoms simulating pyelitis. The abscess was probably ruptured by labor and/or the postpartum enema and caused signs and symptoms of a more generalized peritonitis and shock.

In conclusion, awareness, clinical acumen, and early institution of the proper surgical therapy are the prime factors in the early diagnosis and successful management of this enigma.

BIBLIOGRAPHY

1. Posner, A. C., Bobrow, M. L., and Fils-Aime, R.: Acute appendicitis complicating pregnancy and the puerperium. Harlem Hosp. Bull., 1955, **8,** 1.
2. Douglas, R. G., and Stromme, W. B.: Operative Obstetrics. New York: Appleton, 1957.

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President's Page

MEDICOLEGAL RELATIONS

During the past 10 years the Bar Association of the District of Columbia and the D. C. Medical Society have made repeated efforts through committees to evolve a plan of coöperation in medicolegal matters. While some progress was made over the years, the first tangible result came last year with the development of "A Guide for Practice, Medicolegal Relations, for the District of Columbia." In its present form it has been adopted by both the Bar Association and the Medical Society, and is now in operation.

It is significant that the Guide is the result of much study and discussion on the part of the 2 committees, one from the Bar Association and one from the Medical Society, acting jointly. Each group made concessions in order to reach an agreement. The result is an instrument which, while not perfect, affords a practical basis for coöperative effort between the 2 groups in medicolegal matters. It may be that with the passage of time certain provisions will require modification. If so, such modification should be a simple matter when compared with the effort needed to produce the present Guide.

Few physicians have any enthusiasm for appearing on the witness stand for reasons that are not difficult to understand. However unpleasant this prospect may be, it sometimes becomes a duty which the physician cannot, in good conscience, evade. It is possible that many lawyers wish they could get the necessary testimony from some one other than a physician, and thus be completely rid of the doctor in court.

There are other areas not covered by the Guide in which a patient may need the coöperation of both his doctor and his lawyer. In the past the patient has not always had this, yet without this coöperation his legitimate interests may have suffered.

Now that real progress in the form of the Guide has resulted from this joint effort by the Medical Society and the Bar Association, attention should be directed to other facets of our professional relationship that need thought and study. It is my sincere hope that this accomplishment is but the first of a series that will lead to better understanding between the legal and medical professions in the District of Columbia.

W. LeRoy Dunn

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Editorials

AN OPEN LETTER TO SENATOR WAYNE MORSE

DEAR SENATOR MORSE: We, the members of the Medical Society of the District of Columbia, numbering more than 2,000 members, are as deeply concerned as anyone about the economic problems of medical care. It can probably honestly be said that we as a Society have been seriously studying such problems a much longer time than most people who are at present loudly proclaiming that the doctors must supply the answers to the causes, and find the solutions of the "high cost of medical care." We desire nothing more than to bring it about that everyone be able to have the best of medical care.

All we want for ourselves is reasonable compensation for the years of education and training we have had, the staggering expense of the same, and the proficiency we have acquired through long hours of dealing with the sick, the constant

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of The Medical Society of the District of Columbia

night vigil of study, and attending at considerable expense medical meetings and postgraduate courses. The main compensation we receive is the satisfaction of helping suffering humanity, but we too must live and rear and educate our children.

We know that we and other physicians and scientists are partly responsible for the "high cost of medical care" in that we have developed expensive diagnostic procedures and therapeutic modalities to cure sick people quickly that were not known 50 or even 25 years ago. On the other hand, we are not responsible for the alarming inflation that has caused our efforts to be so costly. We respectfully suggest that the latter is the main problem for our politicians and statesmen to solve.

We shall continue to do our best for our ailing brethren, but, being strong advocates of the free enterprise system, we do not believe that the Federal Government should attempt to take over the control of the practice of medicine or the payment of hospital care as a panacea for the "high cost of medical care." In the case of medically indigent patients we believe that communities and not the Federal Government should "look to their own."

We believe that the best solution, outside of the control of inflation, lies in voluntary prepaid "health insurance," which we ourselves created and nurtured and which we think can be developed to such an extent that everyone will be taken care of, but only when people realize that they must budget for "health insurance" premiums just as they budget for steaks, homes, television sets, automobiles, etc.

Please believe us when we say that the job of our politicians and statesmen is to stop inflation and to encourage the growth of comprehensive, voluntary prepaid medical care plans. We shall continue to foster such plans.

Yours for service,
THE EDITOR

HEALTH PROGRESS REVIEWED

When I took office as a District Commissioner about 3 years ago, the Department of Public Health was under vigorous press and public attack, the principal basis for which was a lack of a cohesive, progressive program. However, substantial progress has been achieved, and significant advances effectuated.

The Department's activities fall broadly into hospital functions and those associated with preventive medicine in the community.

In the former category the D. C. General Hospital, in accomplishing its primary function of providing high standards of patient care, serves not only patients but the community as well by providing training programs for physicians, nurses and others, and by its contributions to medical research.

During the past 3 years increasing appropriations have made it possible to improve existing programs, develop new ones, and make fundamental contributions to medical science.

Foremost among advances, with the opening of the new psychiatric building, are programs in forensic and child psychiatry. Money has been secured for the renovation of the old psychiatric building into a rehabilitation center, including a vocational workshop.

In addition, special facilities have been provided for the establishment of clinics for the diagnosis and treatment of renal, hepatic, arthritic, and dermatologic disorders. A cancer chemotherapeutic program has been initiated. Newer procedures in pulmonary and cardiac surgery are now in effect, and radioactive isotopes are being utilized for diagnostic, therapeutic and research activities.

In fiscal year 1958 the picture at the District's Glenn Dale Hospital radically changed. In this year more new cases of tuberculosis were admitted than in any one year in the history of the Hospital. This change occurred as a result of an intensified tuberculosis control program, having as its basis concentration on case-finding, tuberculin surveys, and the use of a "removal and detention" program for recalcitrant patients. This large number of patients amply demonstrates that tuberculosis is still a major public health problem in the District of Columbia.

In areas other than hospital activities the most significant recent development within the Department was the establishment of a Bureau of Mental Health, bringing together for the first time the many groups heretofore independently operated into a well-defined and organizationally sound unit, dealing with mental health problems.

The District has accepted two 3-year grants in mental health: one, in connection with the Child Guidance Division, will provide a service study of exceptionally intelligent children with emotional disorders; the other will apply follow-up services to patients discharged from St. Elizabeths Hospital.

A full-time mental health team was assigned by the Director of Public Health to work in the public schools. This team will assist school officials toward as effective a method as possible for the most difficult cases of mental retardation and emotional disturbance.

The Health Department has been able to conduct also a screening for diabetes. In over 100,000 tests within the past 3 years over 1,500 diabetics have been discovered. It was possible to refer over 700 of these to private physicians. The remainder with limited income were referred to hospital clinics.

The most serious problem confronting the Department at present is nursing homes, all but 2 of which are now recognized as substandard, with little prospect that these can be induced to undertake the capital outlay necessary to achieve full compliance with regulations. To induce such an outlay would necessitate a substantial increase in the per diem rate, with the consequently heavy additional burden on District taxpayers, and a guarantee of some permanence of patronage, which the District Government is not authorized to make. This problem is now under active study; but a ready solution has not yet been achieved.

The foregoing constitutes the highlights on public health. Space does not permit mention of, or comment on the Dental Program, Chronic Diseases, Maternal and Child Health, Public Health Nursing, and Food and Public Health Engineering, in all of which there have been significant advances and broad public service.

David B. Karrick
Commissioner, the District of Columbia

MALPRACTICE AND THE TUCSON PLAN

A unique and effective plan which is now reducing the incidence of unjust medical malpractice suits in Tucson, Arizona, is reported in the December 22, 1958, issue of *Medical Economics*. The essential features of this plan are well worthy of consideration.

A panel of an equal number of physicians and lawyers has been selected from the Medical Society and Bar Association of that community. The panel hears evidence, examines the facts, votes in secret, and reports its findings in writing to the prospective plaintiff and to the defendant. Perhaps these functions can best be detailed in an outline form such as follows:

1. The panel consists of an equal number of physicians and attorneys, up to 10 of each.
2. Membership is rotated.
3. Any attorney may submit a malpractice claim on which he contemplates filing suit to members of the panel, providing them with the

facts and authorizing them to examine the plaintiff's medical records.

4. The panel is required to meet within 45 days after receiving the claim, at which time it hears the evidence from both the patient and the doctor, in person. Questions submitted in writing by members of the panel are asked by the chairman.

5. No official records are kept and the deliberations are never made public.

6. The vote is by secret ballot, and the exact number of pros and cons is not revealed even to panel members.

7. The majority decision is reported.

8. "If the panel has decided no suit is justified, the patient's attorney doesn't file one."

9. If the panel decides the claim does have merit, it helps the plaintiff to obtain expert testimony.

10. The panel doesn't try to settle disputed questions.

11. It does not award damages.

12. Finally, no lawyer is required to submit a case to the panel, nor is he required to be bound by its decision. The success of the panel depends entirely upon the good faith of the lawyer who seeks its services, and the fairness of the panel.

This plan has apparently worked well in Arizona. The article points out that 5 of the 6 cases submitted to the panel were found to be based upon insubstantial claims, while in the sixth the panel recommended in favor of the plaintiff and a mutually satisfactory settlement was reached.

A plan remarkably similar in many of its aspects was proposed by the Medical Society for the District of Columbia about 10 years ago. When first conceived, a panel of 4 doctors and 4 lawyers was suggested. It was to be entirely a voluntary fact-finding body, and in no way to interfere with "due process of law." Proponents were told such a voluntary plan would never work; the lawyers particularly maintained that it had to have an official status, that is, become an "arm of the court."

A subcommittee of the Medical Society of the District of Columbia met several times with its counterpart from the District Bar Association and attempted to set up such a panel. A tentative plan was formulated providing for a commission of 2 doctors and 2 lawyers to act as a pretrial body.

In 1950 this plan got a tentative acceptance in principle from the Executive Board of the Society. However, attempts to implement the plan did not meet with success. Most of the opposition came from the legal profession. Many attorneys felt it would result in "trying a case twice"; others felt it endangered trial by jury, and some even felt such a panel would become a "Sacred Cow," having a finality of judgment it did not deserve.

A more specific objection was that if such a panel were to function in the District there would be no way of keeping members of the commission from being subpoenaed and thereby made to give expert testimony, or to be questioned about the deliberations of the panel.

Again, it was noted that if such a panel were to decide for the plaintiff, there would be nothing to prevent the plaintiff's attorney from raising the monetary amount of his suit to an astronomical figure. Even though some of the doctors and lawyers labored for several years on the proposed project, it was impossible to overcome these objections.

The medical malpractice situation in the District is too well known to bear repetition. Lawyers and doctors and even the general public will agree that any plan which can prevent a physician from being unjustly harassed by an unmerited malpractice claim is worthy of consideration. Indeed the threat of malpractice litigation is now so great that it is adversely affecting the practice of medicine. Doctors are inclined to be overly cautious; often consultations, laboratory and other procedures are ordered to avoid the threat of a malpractice suit. Moreover, physicians may hesitate to try new drugs or new procedures because of the same threat. This is not helping medical science to advance. In fact, one is probably not stretching a point to state this unjust threat may even be adding to human suffering. Certainly it is increasing the cost of medical care and particularly at a time when we all want to avoid such an increase.

With this Tucson Plan in mind, may we not ask again for the lawyers and doctors to sit down in good faith and try again to establish such a worthy institution for our community?

Raymond A. Osbourn, M.D.

HEALTH COSTS UNDER SCRUTINY

In a local newspaper* there appeared recently a series of contributions on "The High Cost of Health" by Charles G. Brooks. While the medical profession is familiar with the substance of the articles, it is doubtful if the man on the street, or a large segment of the population, is familiar with the contents. The average person has probably been more concerned with the cost of living and income taxes.

The various headings of the installments were well chosen and meticulously elaborated in the body of the articles. The following subjects received critical consideration:

1. Rising Medical Bills Worry Many Today
2. Expenses Up; Hospitals Barely Break Even Now
3. Hospital Humaneness Brings Many Deficits
4. Invisible Expenses Inflate Patient Bills
5. Doctors' Fees Facing Scrutiny
6. Congress to Examine Specialists' Fees
7. Those Costly Drugs Pay Off in Long Run
8. Growth of Insurance Shows Public Alarm
9. Middle Class Squeezed by High Medical Costs.

It was a timely and well conceived contribution to a subject that concerns the life of every one of us. Although some statements or conclusions in the articles will not be palatable to all members of the medical profession, the appraisal was not unfair, and no captious criticism should be forthcoming. It is pertinent to ask, why the accent is placed only on the cost of health, since it has been repeatedly stated that not only health is a vital problem, but food, shelter, clothing, and employment also rank high on the list of the increasing costs of living.

What dividends have been afforded from the increase in the cost of health? We should look on both the debit and credit sides of the page. What do the credits show? The average duration of life has been extended 20 years or more in this century. There are more than 16 million persons over 60 years of age living in the United States today, the highest in our history. Many of them are in good health and are gainfully employed. Polio, diphtheria, pneumonia, tuberculosis and typhoid fever, diseases that could be termed "captains of the men of death," are dwindling in numbers, and the toxicity of many other diseases has been attenuated or reduced to a remarkable degree. Persons suffering with certain types of heart disease and vascular sclerosis have had their lives prolonged by specialists in surgery.

Who can estimate in dollars the savings that have been possible through the investment in good hospitals, expensive drugs, and the best trained medical fraternity in the world? It is only too true that such outstanding results do not justify extravagance for ultramodern hospitals, exorbitant price of drugs, or ridiculous charges of some specialists. Such is not condoned by the profession.

When we think of the billions of dollars that have been used to conduct two world wars, the Korean episode, and protection against a possible third world war, there is no wonder that the cost of living and keeping well leaves little for savings or catastrophic illnesses. It would be worth while and most interesting to take the last 50 years, decade by decade, and compare the price of health, food, shelter and clothing with the income of the professional man, the white collar employee, the mechanic, the miner, and the laborer. It will probably show the cost of living has not kept pace with the rising income.

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* *The Evening Star*, January 11–19, 1959.

No one can question the industrial or "box office" value of a highly specialized person, whether he is an executive, musician, writer, actor, physicist, engineer, or physician. Special ability deserves adequate compensation, or to quote, "The laborer is worthy of his hire." With such publicity that radiates from Mr. Brooks' excellent analysis there has emerged no tangible solution; no stroke of a pen, no act of a legislature, and no cry from the housetops will alter the situation in the immediate future. Truly, it is a world-wide problem that demands all of our patience, intelligence, diplomacy, and diligence to make a lasting impression upon it.

C. S. W.

In and Out of Focus

BY THE OBSERVER

Senator Morse on Medical Care Costs

Following the appearance of a news story in the Washington *Evening Star* for February 3 in which Senator Morse was quoted as saying, "I invite members of the medical profession of Washington to join us in a study of . . . hospital and medical costs," your Observer turned to the *Congressional Record* for a complete text of the Senator's remarks. He found that most of them were directed to a new bill which he had introduced, S.881, which "will insure the cost of hospital, surgical and nursing home care for people eligible for Social Security benefits."

With reference to the situation in the District of Columbia, Senator Morse said:

> "Shortly, the subcommittee on Health Education and Public Welfare of the Committee on the District of Columbia, of which I am chairman, will begin hearings on medical costs in the District of Columbia, because such preliminary information as has been made available to my subcommittee satisfies me that it is a subject matter which deserves some attention from the Committee on the District of Columbia of the Senate. I conducted a short hearing on this problem toward the end of the last session of Congress, and at that time I announced that in this session of Congress my subcommittee would proceed with a detailed investigation.
>
> "I raise my voice by way of an invitation to the medical fraternity to join us in a mutual endeavor to conduct an objective study of the medical problem and the hospital problem, to the end that we may gather the facts. . . ."

Later in his remarks he again referred to conditions in Washington:

> "One of the complaints which I am receiving, as chairman of the subcommittee of the District of Columbia committee which has jurisdiction over health matters in the District of Columbia, is from persons who think they are insured and then find that since they took out their policies there has been an increase in hospital and medical costs. So they find themselves coming close to paying the same amount of money which they would have paid if they had never taken out such a policy and if medical and hospital costs had not been increased.
>
> "That situation concerns many of us. It is always sad to discover a case in which an individual finds he does not have the protection he thought he had. I wish to say to the medical profession and the hospital administrators of the country, 'It is not in your interest to let that condition continue,' because the result is that when many of these policyholders find they were not covered as they thought they were, because of the increase in costs of medical care and hospital care since they took out their policies, their normal, human reaction is resentment against the medical profession and the hospitals.

"I think there is a comity of interests in connection with this problem. There is a mutuality of interest among the doctors, the hospitals, the legislators, and the public to do something about it. From my desk on the floor of the Senate, I say today to the doctors, 'Get your heads out of the sand. You must come forward with a program much better than your program of last December.'* In my judgment, the American people will not 'buy' it, because it does not meet the medical-cost problems of millions of fellow Americans."

In arguing for the passage of his bill, he said:

"This is not a bill to socialize medicine. It provides only for payment for hospital, surgical, and nursing home care, following the pattern developed by many of our voluntary prepayment plans. The bill specifically states that the Secretary of Health, Education and Welfare shall have no supervision or control over: first, the practice of medicine or the manner in which services are provided; second, the details of the administration or operation of hospitals or nursing homes; and third, the selection, tenure or compensation of hospital or nursing home personnel.

* * * * *

"The first fact of our time which we must recognize is that, as the quality of our potential medical care has improved, its cost has also been increasing so drastically that it has become unavailable to many of our older people. The cost of medical care has skyrocketed in the past few years, rising far more than the overall cost of living. Measured by the official consumer price index, the cost of living has increased about 23 per cent since the benchmark 1947–49. At the same time the cost of medical care has jumped 44 per cent. . . .

"Hospital room rates have more than doubled, surgeons' fees have risen 26 per cent, and general practitioners' fees have risen 39 per cent. Costs of hospitalization have increased for a number of reasons. The improved laboratory services, including the diagnostic and therapeutic equipment which saves lives and shortens hospital stays, are very expensive. The reasonable increase in nurses' salaries—which are still too low—is another substantial cost-increase item.

"Finally, income from endowments has failed to keep pace with other costs, and most of all—our hard-pressed hospitals must bear heavy costs for the medical care of people who must have such care but cannot afford to pay for it. Hospital administrators point out that, as matters stand now, the paying hospital patient is carrying a large part of the burden of his indigent fellows.

"And anyone who has bought a prescription during the last year can testify to the rising costs of those life-giving drugs which mean healthier lives for most of us.

* * * * *

"I am not impressed with [the] conclusion that the present administration earnestly believes that voluntary health insurance offers the best means of helping most people meet the costs of health care. This, I submit, is the kind of schizophrenic thinking which has so far delayed the kind of positive action which will bring protection to people who need it.

"Nor am I impressed with the solution presented last December by the American Medical Association. The AMA finally recognized that something must be done in this area, and prescribed as their remedy that doctors lower medical fees for older people to help insurance companies and prepayment plans to lower costs for the aged.

"This proposal, based on a 4-year study by a 15-man commission, was hailed by one observer as one of the landmarks of 20th century American medical care. I submit that the mountain has brought forth a mouse. Such an answer is like giving an aspirin to a man with a broken bone."

The Senator then served this warning:

"Politicians will come and go; and there may be some of us so outspoken on this subject that we may go sooner than others. But this problem will continue with the country until it is solved in the interests of the people of the Nation. Today I respectfully say to the medical profession and to the hospital associations, 'You will never be able to stem the growing demand on the part of the American people for adequate service at times of illness, at a cost they can afford to pay.'

"If the medical profession and the hospital associations of this country think they have much time left to exercise the medical statesmanship it is their duty to exercise, then I file today a respectful dissent, because, as a politician, I talk to too many people in this country for me to develop the type of myopia which seems to characterize the eyesight of most doctors and hospital officials in this country in respect to the matter of medical cost."

The Senator had much more to say, but the above, your Observer believes, adequately expresses his views.

In mid-February, when this item was prepared, Senator Morse had not announced when the hearings which he contemplates will be held.

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* Senator Morse refers here to the program proposed by the AMA's House of Delegates at Minneapolis.

CD Revived? Not a few members will recall the futile efforts of the Medical Society to breathe life into Civil Defense's Emergency Medical Program for the District of Columbia. It was a frustrating and unhappy experience for all concerned. Despite the best efforts of several dedicated physicians, the program was doomed from the beginning largely because public officials in high places did not take it seriously. It was not surprising then that the people too were disinterested.

This is graphically revealed in three items that appeared in your Observer's column in 1951. In February of that year, under the caption "CD Begins to Roll," your Observer relates that three years had passed since the Society's Committee on Emergency Medical Service began laying its plans for an emergency program which would be placed in operation to cope with a situation which might arise if Washington were subjected to an atomic attack. "Despite discouragements and many setbacks," he wrote, "the Committee pursued a steady course until a District Government organization took over. Happily its efforts have not been in vain." However, he qualified his optimism with the statement that realization of an adequate program was "dependent on the adequacy of appropriations made by the Government. Funds now available are so limited that only a beginning is possible."

Six months later your Observer reported in his column, under the heading "CD Stalls," no progress had been made despite the dynamic and able leadership of the late Dr. Oscar B. Hunter, then CD's Assistant Director of Medical Care Services in the District of Columbia. Dr. Hunter complained bitterly of the inability to obtain definite commitments and of the lack of funds. He himself had contributed an immense amount of time and considerable money to get the machinery of the CD Medical Service going. But "red tape" and apathy were barriers that he could not hurdle.

By October the District's Civil Defense program was in the doldrums. Your Observer contributed his observations under the title "Civil Defense Fades." He did not see any great point in mentioning it because what was happening was all too apparent, but he voiced the opinion that the "expiration of the program seems close at hand unless something unforeseen happens." The diagnosis, he said, was simple: "anemia because of a lack of life-sustaining funds complicated by frustration and 'red tape'." "Why," he inquired, "are billions of dollars expended for military preparedness and minuscule appropriations made for Civil Defense when we are told on good authority that if war should come our cities will be subjected to atomic bombing with consequent heavy loss of life?"

Well, except for organizational activities and infrequent mock emergencies, little has been heard of Civil Defense in recent years. This is particularly true where its medical services are concerned. It was this that prompted the Society's Committee on Emergency Medical Care a few years ago to organize what is called the Medical Emergency Disaster Service (MEDS) to cope with natural disasters. This organization has no connection with Civil Defense. It has carried on regular exercises over a period of years, some 40 physicians participating. Recently, nearby county medical societies in Maryland and Virginia have indicated their interest in establishing similar groups.

This, then, in brief, is the historical background of Civil Defense's medical activities in the District of Columbia. It came to mind when your Observer read an article appearing in *Public Health Reports* for January 1959 entitled "Preparedness and Survival" by Surgeon General Leroy E. Burney of the Public Health Service. From Dr. Burney's statements it appears that policy determinations and coördination will be the responsibility of the Office of Civil and Defense Mobilization (OCDM). Central direction will reside in the Executive Office of the President. The Public Health Service will be responsible for health and medical care operations.

In his plea for coöperation of the groups engaged in the health field, Dr. Burney speaks in familiar language. He says Civil Defense "is as urgent as tomorrow's newspaper headline and as near as a pushbutton. It cannot be shrugged away. It cannot be postponed until some indefinable date when we may be so generously supplied with personnel and resources that we can proceed in a leisurely fashion. That kind of future may never arrive. The dark specter of disaster—either natural or manmade—is an everyday possibility, hovering like an unwelcome neighbor just outside our door.

> "Are we ready for tomorrow's hurricane or flood or atomic explosion? If we as health leaders cannot answer that question with a resounding 'Yes!' we are failing in our civic responsibilities. Medical and public health services for emergencies must be ready and they must be able to work. Leadership in civil defense planning is the strongest kind of evidence that the health personnel of this country have the safety of their fellow men at heart and are working to protect it.
>
> "To be sure, civil defense and mobilization are complex. There have been false starts and changed signals. There have been gaps in staffs and in funds, and lack of a steady focus in civil defense work.
>
> "As a former state health officer, I have shared with you some of the frustrations of the past. There will probably be new ones in the future. We have been and will be confronted by vast and changing needs. Who could have known 2 years ago the challenges that confront us today—the new weapons, the mounting potentialities of warfare? We must be prepared every day to meet the unpredictable, the unknown."

He then continues:

> "In many ways, Civil Defense is an intensely local problem. In the event of enemy attack, individual areas may have to be on their own for weeks, especially if they have not been direct targets and have not sustained casualties. They would undoubtedly be cut off from normal channels of transportation, trade, and communications. Many communities will have to rely on their own resources to an unprecedented extent. They will have to develop a kind of self-sufficiency not within the recent experience of our American communities. They will also have to share their health and medical services with less fortunate areas.
>
> "Conversely, therefore, it is not enough to think of civil defense as a local affair. Your town, my town, will receive protection only in so far as the total health and medical resources of the Nation are planned, organized, practiced, and mobilized to come to its defense."

Dr. Burney's article is based on a talk which he gave before the American Public Health Association in St. Louis the latter part of October, 1958.

Having a vivid memory of past events, one can safely hazard the guess that Dr. Burney's appeal will fall on deaf ears unless the Administration and Congress make it clear to the people that Civil Defense preparations are an urgent necessity. The people cannot be blamed for apathy when they read the doubletalk by public officials supposed to be in the know about dangers of destruction by enemy attack. It often happens that one official will categorically state that we are far behind the Russians in missiles and other implements of war and therefore are in mortal danger; another, that our retaliatory power is so great that we have nothing to worry about.

Someone in the highest echelon both in the Administration and Congress should come forth with a clear, straightforward statement to the people just what the elements of danger are, and what they should do about it *now*. Perhaps this has been done, but it needs to be repeated over all media of communication, such as television, radio, and through the press. Otherwise, public apathy will continue.

Only when the public is convinced of the seriousness of the situation will volunteers come forward to do the job required. Otherwise it will develop into another orgy of blueprints which are never implemented.

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For Efficiency's Sake

One of the projects undertaken by the Medical Society's Classification Committee several months ago was a revision and consolidation of several forms used by applicants for membership and those desiring to appear on the Society's classified list. The project has now been completed. In the future, physicians applying for membership will not be required to furnish biographical and other data following their election. It will all have been included in the application form.

As Dr. Wallace M. Yater, Chairman of the Committee, points out, the new form will not only eliminate considerable paper work in the Society's Executive Offices but will provide additional data on which the Board of Credentials and the Classification Committee can base their actions. In addition, Dr. Yater states, it is becoming increasingly important to members of the Society to be classified according to type of practice. Because of the rapid growth of so-called third-party medicine, notably voluntary health insurance, physicians' compensation will undoubtedly be based on their training and experience. Therefore, he insists, proper classification by the Society is essential.

Until the new form was devised, there were four different application forms, one each for Active, Associate, Affiliate and Resident-Intern members. Then there were the Membership Record (for recording biographical data) and the Classification Form (for recording professional qualifications).

Inevitably there was considerable duplication of information. Study of the forms disclosed, too, that important data on which to determine classification had been inadvertently omitted. In addition, proper endorsement of an applicant's professional qualifications had never been incorporated. This, in the Committee's opinion, was very important.

In addition to the endorsement of his colleagues, an applicant's claim of a specialty must now be approved by a member of the Classification Committee in his field, who will in the future be chosen from the membership of the Section in his specialty, if there is one. There are, of course, other changes, but these will be of a minor nature.

When the new form is put into use, which will perhaps be before these lines appear, membership records will eventually be the most complete in the Society's history. As must be apparent, this will require a long time if new applicants are relied upon entirely. In view of this, present members will be sent abbreviated forms on which to provide data. Because of the labor involved in preparing and printing a new and abbreviated version, it will be some time before the latter forms will be available. However, when members receive them, their prompt attention is earnestly hoped for, not only for the Society's benefit but their own.

★

"... The Eternal Values ..."

One of the most impressive events your Observer has witnessed in a long time was held at Catholic University on the evening of February 3 when His Eminence, Richard Cardinal Cushing, of Boston, addressed a capacity audience, including members and guests of the Guild of Catholic Psychiatrists, then meeting in Washington, and the faculty and students of the University. What gave unusual color to the occasion were the vivid hues of the vestments worn by distinguished prelates and the hoods worn over the academic robes of honored guests.

By turn witty and serious, Cardinal Cushing presented his views on religion and psychiatry. To allay fears of the professional brethren present, he assured them that this was not to be "another attack on psychiatry." On the contrary, he said, "I look on psychiatry and psychiatrists with interest, respect, and admiration for their work, even though these sentiments are at times tempered with a legitimate concern. . . . I not only look *at* but I also look *to* psychiatry as an important collaborator with the Church in its concern for men's minds and souls."

In a brief historical review, he described the Church's early interest in psychiatry. However, he said, "We need not go back to historic times to validate the interest and respect of the Church for psychiatry." There is abundant testimony today, he went on, that in the psychiatric wards of many of the Church's hospitals the best psychiatric services are made available. This should be ample evidence, he observed, to refute the fact that "the Church takes a negative and somewhat unfriendly view of psychiatry."

Somewhat later in his address he came to grips with his main thesis.

> "Religion and psychiatry," he said, "can and must join forces in helping mankind in what is so frequently called our current age of anxiety. In fact, it may well be that on this common ground of human anxiety that we can find a focal point for the best coöperation between the psychiatrist and the priest. For anxiety is at the heart of most mental disturbances and appears to be the basic core of neuroses. Both the clergy and psychiatrists encounter people who are burdened with anxieties in varying degrees and concerning many things. We must help these people not only in the negative sense of controlling their anxieties, but in the positive sense of preventing abnormal anxiety reactions. We must help the individual attain vigorous mental health. For this we need not only a psychiatric and a psychological approach to the problem; we need, above all, a religious approach.
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> "Anxiety is likely to develop when there is a threat to some value or values which the individual considers essential to his existence as a personality. The understanding of anxiety, therefore, cannot be separated from the problem of values, for in the values which the individual lives by is the key for the treatment of his anxiety. What particular events or stresses will constitute a threat to a person depends on what particular values he considers important to his existence, status or prestige as an individual. For any given individual these may hinge upon health, wealth, economic and social prestige or whatever else he believes is worthwhile in life.
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> "What of the values which many people today are overlooking or have allowed to grow dim, and which, nevertheless, are essential to their existence as personalities? What of the many values which must not be threatened or lost in the contemporary crises of modern life? We know that these values transcend all other values and can be realized when all other values fail. They are the eternal values which flow from the fact of God's love and our eternal salvation. It is toward the attainment of these that we must direct men in order that they may be better persons not only religiously, but psychologically as well. 'Seek ye first the Kingdom of Heaven.' Much of the anxiety of our time is due to the circumstance that people, by being solicitous about the wrong things, in an immaturity which is at once psychological and religious, have identified their happiness with the wrong values. . . .
>
> "It is through a reorientation on the lasting and eternal values that mankind can obtain insight and find wisdom to meet the anxieties that must come into our everyday lives. Such an orientation enables a man to meet anxiety, not in a negative, neurotic manner, but with courage and confidence. It is through courage and striving rather than through evasions and withdrawals in meeting the day-to-day anxieties as they arise that we can prevent normal anxiety from becoming pathological.
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> "Yet problems and anxieties cannot be met in a positive and constructive way unless courage and fortitude be coupled with faith in the protecting providence of God. The person who achieves acceptance of real values and attacks his problems in the light of this acceptance has, generally speaking, banished mental anguish and is returning to health. He discovers his place in life and realizes that he has a work to do. The shilly-shally of anxiety gives way to the expansion of the creative force of a stable personality. The meaning of life itself becomes clarified, and the science of psychiatry, under God, has achieved a victory. . . ."

In his conclusion, the Cardinal said, "Religion and psychiatry have, indeed, many points of contact within the totality of the human personality. They can be for each other—they must be for each other—important auxiliaries in the understanding and care of men's minds and souls. This does not mean that the priest should try to play the role of the psychiatrist; nor that the psychiatrist should attempt to take over the work of the priest. It does mean that each can find common ground for mutual understanding and coöperation in the work of alleviating human sufferings and in the salvation of souls."

* * *

Buying and Selling a Practice

A sizable number of the telephone calls which pour into the Medical Society's Executive Offices are from widows of physicians or from physicians contemplating retirement who wish advice in regard to selling a medical practice. There are also the calls from prospective purchasers, but these are less frequent.

Having been associated with medical organizations for nearly three decades, your Observer has naturally acquired considerable knowledge of the problems facing the medical profession, including the buying and selling of practices.

The fact is that where the latter transactions are concerned no two situations are alike. In these circumstances the peculiar conditions which exist must be taken into account when offering suggestions. For example, there is a considerable difference between selling the practice of a general practitioner whose office is located in his home and that of a physician engaged in a limited specialty. If a general practitioner, he may have built up a large clientele, and his location and real estate property have considerable value. These, together with his equipment and clinical records, are tangible assets which it is not too difficult to appraise. There are, of course, still the intangible elements, such as good will, the value of which is often nebulous.

As has been suggested, however, what is true of general practice does not necessarily apply to a specialty. Quite the contrary. If a physician's office is located in a downtown area and he is engaged in a limited specialty where he depends entirely upon referred work, advice becomes much more difficult when he decides to sell his practice. It is readily apparent then that there are so many variables that laying down definite rules which have general application is difficult.

Although your Observer has advised many physicians and their widows and likes to believe that in most instances he has been of help, he decided it might be wise to look into the suggestions others have to offer. Having reached this conclusion, he wrote to *Medical Economics* requesting a list of articles on this subject which had appeared in this publication in the past several years. This was promptly supplied.

In reading the various articles, he came upon several suggestions which seemed to him decidedly worth passing on to the readers of this column.

One writer[1] suggested a yardstick to be used, listing the following:

"Furniture and Equipment
  Old items (at 25 per cent of cost)
  New items (at 75 per cent of cost)
  Other items (at book value)
Drugs and supplies
  One-sixth of last year's total bill
Patients' records
  One-quarter to one-half last year's net income
Office lease
  Value of any special factors involved
Leasehold improvements
  Value to incoming tenant
Medical office
  Value of building
  Value of land
Accounts receivable
  Total charges for two months
Total value of practice."

The above, as the author says, are "rough rules of thumb," which he amplifies in his text, but due to limitations of space, the above must be sufficient. Mention might be made, however, that the value of patients' records generally is estimated at one-half to one-quarter the established doctor's annual net income.

Another factor entering into the value of the physician's practice is the age of his clientele. Where a practitioner is advanced in years, his patients are likely to be in the older age group, which reduces the value of his records considerably.

This brings up a matter which should not be overlooked by the physician who has reached middle age. It would be well for him to remember that many practitioners wait too long before taking steps to protect the value of their practices.

In this connection, another writer[2] made the following suggestion:

> "About ten years ago, a 55-year-old G.P., whom I'll call Dr. Jackson, asked me to help him map out a plan of action by which he could:
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> 1. Reduce the long hours he was devoting to his practice;
> 2. Keep his earnings high despite the cutback; and

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[1] Young, N. J. (Detroit, Mich.): M. Economics, 1957, **34**, (April) 148.

[2] Post, J. C. (Washington, D. C.): M. Economics, 1956, **33**, (February) 106.

3. Be sure of selling the practice at a good price, if he should want to retire at 65."

He then proposed an arrangement under which a pre-partnership agreement would be entered into whereby the young associate would be paid $700 a month the first year; when a permanent partnership was formed, he would get a percentage of net income that would increase each year for 10 years until equality was reached. At that time, the associate would buy the full practice.

This seems a very sensible way for a physician to meet the problem of disposing of a practice in his later years. If the 65-year-old physician should not wish to retire, some other arrangement could be entered into with the associate. The author suggests that he might practice in the same office on a rental basis, leaving it up to him to practice as much or as little as he desired.

Incidentally, the Judicial Council of the AMA has ruled it is unethical for a physician to pay for a practice by simply allotting the deceased doctor's heirs a certain percentage of his income over a period of time.

What is a practice worth? Mr. Young[1] states: "Easily transferable practices have sold for as much as $65,000. Other practices have sold for as little as $1,500. But the average figure for a well-established practice (without an office building) . . . probably ranges somewhere between $6,000 and $10,000.

"Remember, though, that these prices were realized in sales made under nearly ideal conditions. The figures might be only a quarter as large under unfavorable circumstances."[2]

Much more, of course, could be written on this subject, and the interested reader might find it profitable to read in their entirety the articles from which the above quotations were taken. He might also consult the current index of other publications, such as *The Journal of the American Medical Association*, for articles on this subject.

T. W.

FINANCIAL AID TO CANCER PATIENTS

The D. C. Division of the American Cancer Society has inaugurated a program to provide financial aid to cancer patients requiring medicines. A monthly grant, up to $50.00, for the purchase of necessary medications will be made to patients upon approval of their applications by the attending physician. Residents of the District who cannot otherwise obtain their medicines are eligible.

The following policies and procedures have been adopted for the administration of the grant for medications:

1. Only persons who are residents of the District of Columbia (for at least one year) are eligible.
2. The attending physician must certify that a diagnosis of cancer has been established, and that the patient is unable to obtain medications except through the aid of the Cancer Society. This is subject to verification by the Cancer Society.
3. The physician treating the patient is responsible for applying on behalf of the patient. Approval of the applications will be made by a physician-member of the Service Committee of the local division of the Cancer Society.
4. The amount granted to a patient shall not exceed $50.00 per month. Reapplication must be made each month by the physician and can be made by telephone.
5. Any standard drug normally available for use in local hospitals will be considered for payment by this fund.
6. Prescriptions may be filled by any pharmacy in the District of Columbia willing to bill the Cancer Society directly. It is suggested that the pharmacies verify each prescription with the Cancer Society by telephone.

A letter setting forth the above policies and procedures together with a copy of the application form has been mailed to the membership of the Society. Additional forms or further information may be obtained by calling Miss Helen Rogers at the Cancer Society Office, 810-18th Street, N.W., telephone Executive 3-3690.

INTERNATIONAL MEDICAL CLUB HONORS DISTINGUISHED GUESTS

At a luncheon meeting of the International Medical Club, January 24, at the Mayflower Hotel, guests of honor were Professor William W. Mushin, Professor of Anesthetics in the Welsh National University School of Medicine, and the Honorable Lister Hill, senior Senator from Alabama. Dr. William F. Burdick, President of the Club, presided, and in the name of the Club conferred Honorary membership upon the distinguished guests.

HONOREES OF INTRENATIONAL CLUB

Dr. William F. Burdick (right), President of the International Medical Club, has just conferred Honorary membership upon Professor William W. Mushin (left), of Wales, and Senator Lister Hill, of Alabama, at a luncheon meeting of the Club, January 24.

Dr. J. Ross Veal, also from Alabama, introduced Senator Hill, whose father, an eminent surgeon, had performed the first successful suture of a stab wound of the heart in this country. With his vast knowledge of health needs, Dr. Veal said, Senator Hill introduced a bill in the Senate which was adopted in 1946 and is now known as the Hill-Burton Act. Through this act some 2,800 projects, including entire hospitals, additions to hospitals, clinics, health centers, diagnostic centers, nursing homes, and student nurses' dormitories have been established. Some 184,900 beds have been added to care for the sick. These projects have reached into every state, including the District of Columbia, where aid has been granted to Georgetown, George Washington, D.C. Hospital, Warwick Cancer Clinic, Casualty Hospital, Davis Memorial Rehabilitation Facility, and the Children's Hospital Treatment Center.

The Senator responded briefly by praising the international objectives of the Club. He eulogized the medical profession as the outstanding group capable of crossing international boundaries freely in the interest of humanity. He referred to a new project to which he is now intensely devoted, the sponsorship of legislation to provide substantial support for international research under the National Institutes of Health. Senator Hill credited many achievements of the past to a free profession.

Dr. Mushin was introduced to the members by his friend of many years, Dr. Donald Stubbs. Dr. Mushin holds one of only two full chairs in anesthesiology in the British Commonwealth, although all of the British schools have departments in anesthesiology. Dr. Stubbs praised him as a world leader in his field, a medical statesman in his relations to the many evolutionary problems in his profession at home, and especially as a wise teacher with a balanced sense of mission and reality.

In his response Dr. Mushin stated that the National Health Service of Britain is the law of the land, and that the British and their doctors, no less, are law-abiding citizens; that the 10-year life of this program is only a moment in the long life of a whole people and therefore difficult to evaluate correctly. He believed that certain areas and some segments of the population in all areas had benefited by a definite increase in badly needed medical care, and that while there were some offsetting evils in the program, orderly moves toward correction were constantly being made. He emphasized that the British doctors as proponents of proper evolution seek legal change through orderly process rather than through dangerous revolution. While recognizing that the times continue to be troubled, he voiced a reasonable optimism that the average trend would continue upward.

At the close of the meeting Dr. James W. Watts assumed the presidency of the Club for the current year.

THE ECFMG FINISHES ITS FIRST YEAR*

DEAN F. SMILEY, M.D.

Executive Director, Educational Council for Foreign Medical Graduates, Evanston, Illinois

When Congress passed the Information and Educational Exchange Act of 1948, and the State Department in compliance with that Act established its Educational Exchange Program with its Student and Exchange Visitor visas, the way was made easy for the first time for foreign medical students to seek places in U.S. schools and for physicians trained in foreign medical schools to come to the United States for internship and residency training in our hospitals.

The results of that Act, so far as the medical schools were concerned, were negligible. Places could be found only for 75 to 95 foreign medical students in each entering class, since the established schools had places for only about half of the U.S. students applying for admission, and new medical schools, because of the cost factor, were being only slowly added.

Flood of Foreign-trained Physicians in Our Hospitals

The impact of that Act in our teaching hospitals has, however, been spectacular. The number of foreign medical graduates on Exchange Visitor visas working as interns or residents in our U.S. hospitals has rapidly grown since 1948 until on last census, in 1957–58, it totaled 7,622.[1] (Another 1,000 or more are also known to be working in our U.S. hospitals on Immigrant visas.) Among the factors, in addition to the Information and Educational Exchange Act of 1948, that have contributed to this vast increase in the number of foreign-trained physicians working in our U.S. hospitals are the following:

1. Hospitals have grown, with state and Federal aid, much more rapidly than have our medical schools, and our modern hospitals offer about twice as many internships and many more residencies than our medical schools are prepared to provide U.S. applicants for.

2. Intern and resident stipends have moved upward so that they now, in many instances, cover the trainees' minimum expenses.

3. The training programs developed in many of our modern hospitals offer such fine opportunities for learning that in some areas of the world our U.S. hospitals have for the time being displaced the time-honored hospitals and clinics of Vienna, Berlin, London, Edinburgh and Paris as places to go for advanced education in medicine.

4. The advent of air mail and air transportation has also contributed greatly to this increase.

In most ways this great influx of foreign-trained doctors into our hospitals has been a good thing. It contributes greatly to the progress of medicine the world around through an international exchange of ideas in medicine; it develops mutual understanding, respect and friendship between physicians across national boundaries; and it is of great assistance to many U.S. hospitals in meeting their urgent staffing problems.

Problems Associated with This Flood

Associated with this great influx of physicians from 553 medical schools in countries over the world outside the U.S. there have, however, been some problems that urgently required solution. Because of the difficulties inherent in evaluating credentials obtained in foreign countries, impostors totally untrained in medicine and cult practitioners trained in schools unapproved by the organized medical profession of their own country have been inadvertently admitted too frequently to positions in our U.S. hospitals. Because of the difficulty of evaluating the individual's command of English, too many foreign medical graduates have taken internships in U.S. hospitals only to discover that the pace expected of them in taking medical histories and writing them into hospital records is quite beyond them and they have to give up and go home, or devote a year or more to improving their English before resuming their position in the hospital.

Not a few foreign medical graduates have paid more attention to the size of the stipend than to the character of the instructional program in choosing their internship or residency, with the result that at the completion of the appointment they return home disappointed with what they have learned and with the feeling of having been exploited.

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* Address delivered at the Luncheon sponsored by the George Washington University Medical Society, November 25, 1958, during the 27th Annual Scientific Assembly of the Medical Society of the District of Columbia.

[1] Open Doors 1958. A Report on International Education. New York: Institute of International Exchange, 1 East 67th Street (21).

Finally, there have been too many instances in which foreign medical graduates who came over to study on a Student visa or Exchange Visitor visa changed their minds and decided to stay. Even though they go back to their home country for 2 years, as regulations now require, many of these individuals find they have been absent too long to take up successfully their old ties, and they come back to the United States on an Immigrant visa as soon as they can win a place on their home country's immigration quota for the U.S.

ESTABLISHMENT OF THE ECFMG

With all these problems in mind, the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Federation of State Medical Boards of the U.S. appointed a Coöperating Committee consisting of 3 representatives from each organization. At its first meeting in November, 1954, it elected as Chairman Dr. Donald Anderson, Dean of the School of Medicine of Rochester University, and as Secretary, Dr. Walter Wiggins, Associate Secretary of the Council on Medical Education and Hospitals of the American Medical Association.

This Coöperating Committee, after nearly 3 years of work, recommended the establishment of the Educational Council for Foreign Medical Graduates, procured loans from the sponsoring agencies, and succeeded in interesting the Kellogg Foundation and the Rockefeller Foundation in financing an initial 2-year operation of the plan they had developed. On October 1, 1957 the ECFMG opened its headquarters at 1710 Orrington Avenue, Evanston, Illinois, with a staff of 4 and the writer serving as Executive Director. The basic plan called for informational materials and services for foreign medical graduates, evaluation of credentials, testing of command of English, determination of knowledge of medicine, and certification. In the first year of operation this 5-phased plan has been put into full operation under the direction of the Board of Trustees, which consists of 2 representatives from each of the sponsoring agencies and 2 appointees to represent the public at large. Chairman of the Board of Trustees is Dr. J. Murray Kinsman, Dean of the University of Louisville School of Medicine.

INFORMATIONAL SERVICES AND MATERIALS

In the first year of operation over 13,000 inquiries from foreign medical graduates or their friends and families have been received and answered, and 6,043 have been registered as potential candidates for our examination and certification. The following materials have been made available:

1. Fact Sheet (describing the ECFMG)
2. Application Form (to have credentials evaluated and take our examination)
3. Examination Brochure (describing our American Medical Qualification Examination)
4. Exchangee Brochure (facts for foreign medical graduates contemplating study in U.S. hospitals)
5. Directory of Approved Internships in U.S. Hospitals
6. Directory of Approved Residencies in U.S. Hospitals
7. Immigrant Brochure (facts for foreign medical graduates contemplating immigration into the U.S.)

Every medical school listed in the WHO World Directory of Medical Schools has received copies of items 1, 2 and 3 above. Numerous articles describing the services provided by the ECFMG have been published in a variety of U.S. and foreign medical journals. The embassies of all foreign countries from which we receive Exchange Visitors in medicine have received copies of items 1, 2 and 3 above in distribution quantities as have all our U.S. hospitals listed as having training programs. Coöperating national medical associations, such as the Indian Medical Association, the Philippine Medical Association, and the British Medical Association, have also received items 1, 2 and 3 above in distribution quantities.

CREDENTIAL EVALUATION SERVICES

To be admitted to our American Medical Qualification Examination the foreign medical graduate must present, 3 months or more before the examination, an application and photostated copies of credentials proving that he has had 18 or more years of formal education, at least 4 of which have been in a "recognized" medical school. Intern or residency years in hospitals with planned teaching programs are considered formal education. Medical schools listed in the WHO World Directory of Medical Schools are with a few exceptions approved by their national medical associations and are automatically considered as "recognized medical schools" by the ECFMG. Graduates of cult and irregular medical schools unrecognized by their national medical associations are not admitted to the American Medical Qualification Examination. Original documents are not requested because of the mailing costs and the danger of loss. When they are sent they are promptly returned by registered mail to their owner after a proper record or duplicate has been made and filed in the ECFMG offices. English translations of foreign documents are welcomed but not required as translation service is available among the ECFMG's part-time staff.

Of the approximately 3,700 sets of credentials evaluated this first year, less than one in a hundred have had to be rejected, although many required follow-up letters to clarify missing or ambiguous items on the application or credentials. Two certified photographs are required in order that the examination proctor and the employing hospital can assure themselves that the person examined and employed is the same one whose credentials we evaluated.

AMERICAN MEDICAL QUALIFICATION EXAMINATION

The first American Medical Qualification Examination, given March 25, 1958, consisted of 400 multiple-choice, machine-scored, objective-type questions. Of the 298 foreign medical graduates who took it in 17 U.S. medical schools, 51 per cent attained a passing score of 75 per cent. Another 17 per cent came very near to attaining a passing score, with grades of 70 to 74 per cent.

The second American Medical Qualification Examination, consisting of 360 questions with more time to answer them, was given to 844 foreign medical graduates in 30 U.S. medical schools and 28 foreign examination centers around the world on September 23, 1958; 49.5 per cent attained a passing score of 75 per cent. Another 26.7 per cent attained a score of 70 to 74 per cent.

The examination is made up by the ECFMG's Examination Committee of 6 medical teachers who utilize the large pool of questions which have been used, re-used and analyzed for their effectiveness with hundreds of good and poor students taking the National Board Examinations and smaller numbers of foreign-trained students taking certain State Board Examinations in recent years. The American Medical Qualification Examination is under continuous study and revision by the Examinations Committee, and every effort is being bent toward making it an effective "greatest common denominator" running through the medical education of the 638 medical schools of the world. Special effort is being made to reduce as far as possible the language difficulty of those foreign medical graduates who had most of their education in a language other than English and are therefore apt to be slow readers in English.

ECFMG ENGLISH TEST

The first half hour of the afternoon session of the American Medical Qualification Examination is devoted to the English Test. The proctor reads twice in the English of the usual U.S. hospital patient the story of his illness and what brought him to the hospital. The candidates take such notes as they wish and then write in English a history of the case as they would write it in a hospital record of the case. This test is intended to verify that the candidate can understand spoken English and can write English. Passing the American Medical Qualification Examination proves his ability to comprehend written English. The ability to speak English is not checked by the ECFMG, but it is our understanding that U.S. consuls abroad are loath to grant Exchange Visitor or Student visas to foreign medical graduates who cannot make their wishes known reasonably well in English.

Of the 298 who took the ECFMG English Test on March 25, 1958 only 1 failed to pass it. Of the 844 who took the Test September 23, 1958, only 7 failed and 9 obtained questionable passing marks.

CERTIFICATION

Those foreign medical graduates who meet our credential requirements, pass our ECFMG English Test, and obtain a passing score in our American Medical Qualification Examination receive an

ECFMG Certificate which carries with it a number of advantages. For the foreign medical graduate coming to the U.S. on an Exchange Visitor or Exchange Student visa the ECFMG Certificate (a) makes it possible to participate in the National Intern Matching Program in seeking the internship of his choice; (b) enables him to apply with confidence directly to any hospital listed in the Directory of Approved Internships and Residencies in U.S. hospitals (provided only that the hospital's name in the Directory carries after it the reference number 3 denoting that hospital's willingness and ability to accept foreign-trained physicians); and (c) meets the requirement of several of the American Specialty Boards for "graduation from an approved school" and thus helps to admit to their certifying examination.

For the foreign medical graduate who has an Immigrant Visa, who is here permanently and is perhaps already a citizen, ECFMG certification is very helpful in gaining admission to licensing examination. Although there are still 10 states that by law can admit no foreign medical graduates to licensing examination, 15 states now require ECFMG certification prior to admission to their licensing examination, and these 15 states and 6 others give great weight to ECFMG certification in determining the admission of foreign medical graduates to their licensing examination.

It should also be pointed out (a) that on January 1, 1960 the list of foreign medical schools whose graduates are recommended for consideration on the same basis as graduates of U.S. medical schools will be abolished by the American Medical Association's Council on Medical Education and Hospitals and the Association of American Medical Colleges, who first promulgated it in 1950; (b) that in most U.S. hospitals year-long appointments to internships and residencies will be offered to foreign medical graduates on and after January 1, 1960 only provided those graduates have been certified by the ECFMG (or by the State Board of the state in which the hospital is located); (c) that most hospitals are planning to have no uncertified medical graduates on their staffs after July 1, 1960.

The Temporary Certificates issued to those foreign medical graduates who fail the American Medical Qualification Examination but obtain a score within 5 of passing permit the holder to assume a position as an intern or assistant resident in a U.S. hospital. If, however, the holder does not retake the examination and pass it within the 2-year period provided, he must return to his country of origin. On the basis of the September 23, 1958 examination, 193 foreign medical graduates received Temporary Certificates; 418 received Permanent Certificates.

WHAT FEES ARE CHARGED

The fees are $15.00 for credential evaluation, $35.00 for the American Medical Qualification Examination and English Test. Foreign medical graduates in the U.S., Canada, Puerto Rico or Hawaii are expected to pay these fees before being admitted to the A.M.Q. Examination. Foreign medical graduates residing abroad and taking the examination abroad (because of the difficulty of foreign currency exchange) are not expected to pay the fees unless they pass the A.M.Q. Examination and until they come to the U.S. and are receiving American dollars in the form of an intern or residency stipend. The total $50.00 fee must be paid before they receive their ECFMG Certificate although those that pass receive an official notification of having passed about 2 months after taking the examination.

Hospitals that receive foreign medical graduates directly from abroad are billed $75.00 for each such foreign graduate that the ECFMG certifies for them.

CONCLUSIONS

The ECFMG was established October 1, 1957 in order to (a) make it possible for foreign-trained physicians to establish, while still in their own country, their qualifications to assume internship and residency positions in approved U.S. hospitals, and (b) to make it possible for approved U.S. hospitals to be sure that when they employ ECFMG-certified foreign medical graduates as interns or residents they will be getting bona fide graduates of recognized medical schools with a satisfactory command of English and a comprehensive knowledge of clinical medicine.

These purposes, at the end of the first year of operation, are only beginning to be realized.

The same machinery developed for these purposes is also proving useful in establishing the qualifica-

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Cancer Page

PALLIATION

The patient with incurable cancer always arouses his physician's sympathy but need not in all cases produce an attitude of helplessness and frustration. Many malignant tumors may be controlled for many months with gratifying results. A fairly comfortable existence for but a few additional months would prove of immeasurable benefit to most patients and their families.

An awareness of his responsibility in such cases and a general knowledge of the help that may be offered are of utmost importance to the physician, for he must act decisively, seeking the aid indicated. He must be discreet, however, avoiding those burdensome treatments which would be of little value in relieving pain or prolonging life. So many times, unfortunately, a physician conscientiously striving to achieve such relief and encountering defeat has assumed the philosophy that little can be done in most instances, placing his reliance, therefore, solely on the narcotics and other analgesics. In many cases this philosophy is tragic, because there are many tried and true methods available today—methods more predictable and more accurately administered—which could be so much more useful.

Radiation therapy, hormone therapy, chemotherapy, neurologic surgery, and, to a lesser extent, direct surgery may be utilized singly or in combination. It is impossible for one person to be adequately informed on the varied indications for the use of these modalities, but a phone call or note would suffice. Most physicians active in these specialties, when informed of the nature of the neoplasm and the patient's status, could state rather definitely whether or not a fair prospect of relief could be entertained.

The decision may be difficult in view of the inconvenience to the patient, physically and economically, but palliation is so frequently possible with so little accompanying distress that an aggressive, hopeful approach rather than an ultracautious, reticent spirit would seem most profitable.

CANCER CONTROL—A KEY TO RESEARCH

JOHN R. HELLER, M.D.

Director, National Cancer Institute, National Institutes of Health, PHS

Monday, April 6, 1959, 8:00 p.m.

PLACE: George Washington University Medical School, 1339 H Street, N.W.
SPONSOR: The Saint George Society (tri-University student organization)

YOU ARE INVITED to attend the 1959 CANCER CRUSADE KICKOFF LUNCHEON on March 31, 12:30 p.m., at the Sheraton Park Hotel. Telephone Executive 3-3690 for reservations. Luncheon: $3.00.

NEW DRUGS SUBJECT TO NARCOTIC LAWS

The Bureau of Narcotics, Treasury Department, has just issued the following General Circular No. 247, dated January 5, 1959, over the signature of H. J. Anslinger, Commissioner of Narcotics:

There was published in the Federal Register of January 3, 1959, Proclamation No. 3266 of the President, dated December 24, 1958, proclaiming the finding that each of the following-named drugs is an opiate:

(-) 3-Hydroxynormorphinan
[3-Hydroxymorphinan]
2′-Hydroxy-2,5,9-trimethyl-6,7-benzmorphan
3-Allyl-1-methyl-4-phenyl-4-propionoxypiperidine
Dimethylaminoethyl diphenyl-ethoxyacetate.

While the Bureau has no information that any one of these drugs is to be introduced into the usual medical channels in the near future, there is always the possibility that one or more of them may later be introduced into medical channels, either under a respective generic name to be chosen or a trademark name supplemented, of course, by the chemically descriptive name. It should be remembered that each of these drugs is subject to the Federal narcotic laws, and if and when it is released for medical distribution, physicians will be expected to use the same professional care in dispensing and prescribing it that they are required to use in the case of the comparable drug morphine.

RED CROSS COURSES IN HOME NURSING

Physicians often are concerned over the home care of many of their patients after they leave the hospital. Who will attend to their needs? They know that neither the patients nor their families can carry a prolonged financial burden for professional nursing care, especially in the care of the aged and those with chronic illnesses. Even if finances were no problem, the shortage of trained nurses might well be.

Recognizing the responsibility of physicians and hospitals for adequate care of patients after they leave the hospital, the American Red Cross Nursing Services offers special courses in "Home Care of the Sick and Injured" and "Mother and Baby Care." By no means a substitute for needed professional nursing care, the monthly, 14-hour Red Cross courses in "Home Care of the Sick and Injured" teach homemakers how to give simple nursing care safely, effectively, and economically. Included in the course are many ways to improvise sick-room equipment.

The District of Columbia Red Cross Chapter not only offers free instruction in "Home Care of the Sick and Injured" in both day and night classes but will provide baby-sitting services for those taking the day courses at the Chapter House, 2025 E Street, N.W. Taught by specially trained registered nurses, the "Mother and Baby Care" course has been prepared with the advice and suggestions of obstetricians, pediatricians and maternity care consultants. Pamphlets detailing information are available to physicians for distribution.

All segments of the Washington community as well as physicians can take pride in the District of Columbia Red Cross Chapter's half century of growth and distinguished achievement in services to humanity in the Nation's Capital and on distant battlefields as a grateful Nation joins whole-heartedly in the observance this year of the fiftieth anniversary of the Red Cross Nursing Services.

When the American Red Cross officially established its National Nursing Services program in 1909, the D. C. Chapter's Nursing Services program had been in operation about 4 years. In fact, since its inception in 1905, the D. C. Chapter has pioneered in many programs later adopted on a national scale by the Red Cross. D. C. professional nurses were the first to set up disaster and war training programs and were among the first to enroll for war and disaster service. The first Red Cross Nursing course, "Home Care of the Sick," was prepared and taught by the District group at St. John's Parish Hall in 1908. Home Nursing instruction became a national program in 1913.

During 1957–58, 94 classes on "Home Care of the Sick and Injured" were conducted with a total enrollment of 2,273; certificates were awarded to 1,910. Of the 1,469 prospective parents who enrolled in "Mother and Baby Care" classes, 1,308 received certificates. There was an enrollment of 685 professional nurses as volunteers for community service through the D. C. Chapter. They serve in first aid stations, in community clinics, and in immunization

(*Continued on page 180*)

On the Lighter Side

Contributions are the structural support of churches, charities, and office collections. Without free contributions the afore-mentioned three would find their existence in jeopardy. Contributions are also an integral part of every editorial office, whether newspaper, magazine or periodical. Without the contributed pearls the offices of the printed word would not have the soap-box pages of "letters to the editor," or fillers for the make-up man, or material for lazy writers like me. Therefore, contribution no. 1:

Dear Sir:

I would appreciate your printing this letter in the Annals, as I hope that one of your readers can help me. About 20 years ago, when I was a little girl, I went on an excursion with some friends of my parents. Recently I've wanted to return to the spot, but even though I recall the names of the places we visited, I can't locate the area they were in. This is probably due to my poor sense of direction and to the fact that when I try to read a map it so confuses me that my head starts spinning in circles of Willis.

We started our trip that morning 2 decades ago by walking beside an inland waterway called the Canal of Schlemm. Eventually this led us to a large and limpid Seminal pool. The men and boys donned their bathing trunks and dove in with loud succussion splashes. When I tried to join them, I was forbidden to do so, and no one would tell me why. So I had to console myself by picking a whole basketful of berry aneurysms which grew along the brush border of the pool. My, they were delicious—so red and juicy. I can still taste them now. Soon after, we had a picnic lunch in the shade of the bronchial trees. The spot was alive with woodland sounds. Cooing dove murmurs filled the air. Uterine souffles and vesicular breath sounds rustled through the branches. The metallic tinkle of cowbells came from near by. When I put my ear to the ground, I could even make out a tiny Karotkoff sound which, I believe, was the cry of a local cricket.

When lunch was over, we hurried along as we planned to hike to the famous local ruins. On the way we passed a lush green hill whose top was crowned by darker foliage. It was called Mons Veneris. Parties of sight-seers were scrambling up its sides, but we had no time to stop. Moreover, the grownups said it was no place for children to be playing. Instead, we followed a Babinski sign which, strangely enough, was in the form of a foot, the great toe of which pointed to the ruined Roman colony of E. coli. The first monument we saw here was a noble structure called the Aqueduct of Sylvius. Mr. Smith said it was unusually well preserved and almost as fine as the one at Nimes. He then took us to the Cesarean section of the ancient town and showed us a whole row of crumbled spinal columns and two fine old aortic arches which had been destroyed by medial necrosis. As I walked along, looking up at the arches, I ripped my skirt on a sharp ischial tuberosity which someone had carelessly left there. Fortunately one of the ladies was carrying a supply of Peyer's patches in her pouch of Douglas so that the damage was quickly repaired. By now I had seen enough ruins, but the grownups were eager for more; so we went on to a monstrous antique pile which they said was the Petrous Pyramid, although no one could explain how the Egyptians had gotten here too. Below the pyramid were ancient burial grounds called the Crypts of Lieberkühn. We entered these by the Porta Hepatis. The crypts were only dimly illuminated by cones of light placed here and there on rectal shelves. As a result I lost my way in an ulcer niche, but before I could become too frightened I heard a reassuring presystolic rumble which I recognized as the voice of Mr. Smith. I rejoined the party as they were making their way through a dolichocephalic cranial vault in which a large number of barrel chests were stored. These contained an unusual collection of antique jeweled collar-button abscesses and intricately carved mitral rings made of ivory. Since time was growing short, even the grownups had to pass them by, and soon all of us made our exit via a series of congested nasal passages. As we emerged, the acid chymes of the Angelus told us we must hurry home, and so, stumbling over a few scattered gallstones, we found our way back to our starting point.

This, then, was my trip. If one of your readers could help me find the spot again, I would consider myself much in his debt.

Sincerely yours,
Ruth B. Benedict, M.D.

Contribution no. 2—from the daughter of an analyst.

AUGUST EXPENSE ACCOUNT

Aug. 1	Advertising for female stenographer	$1.50
2	Violets for stenographer	1.50
6	Salary for stenographer	45.00
9	Roses for stenographer	5.00
11	Candy for wife	.90
13	Lunch for stenographer	7.00
16	Salary for stenographer	60.00
18	Theater tickets for stenographer	15.00
19	Ice cream soda for wife	.30
22	Virginia's salary	75.00
23	Champagne dinner for Ginny	32.50
25	Doctor's bill for stupid steno	377.00
26	Fur coat for wife	1,275.00
31	Advertising for male stenographer	1.50

J. EARL KADAN, M.D.

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, January 26, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Henry D. Bell, Glenn Dale Hospital, Glenn Dale, Md.
Joseph D. Noshpitz, 3014 Que Street, N.W.
James A. Ryan, 4301 Massachusetts Avenue, N.W.
John A. Sanders, 4000 Massachusetts Avenue, N.W.
Robert T. Scanlon, 12005 Bluhill Road, Wheaton, Md.
Richard P. Wang, 16 Ober Road, Princeton, N.J.

Associate Members

John A. Dattoli, 11116 Stillwater Avenue, Kensington, Md.
Jean Omer Feys, 2717 29th Street, S.E.
Ben S. Fine, 4107 Connecticut Avenue, N.W.
Bruno Kolega, 4833 St. Barnabas Road, S.E.
William C. Swatek, Washington Sanitarium, Takoma Park, Md.

The following applicants for membership will be voted on at the meeting of the Executive Board, April 27, 1959.

For Active Membership

Salomon N, Albert, American University of Beirut (Lebanon)—1936
John H. Bouma, University of Minnesota—1952
Margaret W. Bridwell, Louisiana State University—1946
Thomas N. Carter, George Washington University—1955
Michael Frontenac Lapadula, Georgetown University—1951
Arnold A. Lear, Harvard University—1950
Robert S. Poole, George Washington University—1953
Linwood L. Rayford, Howard University—1951
Thomas E. Reichelderfer, Johns Hopkins University—1950

For Associate Membership

Miguel A. Huici, University of Buenos Aires (Argentina)—1942
Robert V. Schultz, Yale University—1929
George S. Vouvalis, Medical School of Athens (Greece)—1939

For Resident-Intern Membership

William R. Claytor, Howard University—1954
Donald Wallis Wiczer, George Washington University—1957

VNA HOME CARE PROGRAM

The newly organized Home Care program of the Visiting Nurse Association, which was approved by the Executive Board of the Medical Society of the District of Columbia on July 28, 1958, is a plan developed by the Visiting Nurse Association of the District with the assistance of its Medical Advisory Committee. It offers the patient in the home the coördinated services of the physician, the visiting nurse, the social service worker, the physical therapist, the occupational therapist, and other associated disciplines, such as speech therapy. The intent of the plan is to shorten hospital stay and the convalescent period; it should prove an important factor in the rehabilitation of convalescent patients.

Sarah Van Buskirk, B.S., R.N., also a registered physical therapist, has been appointed supervisor and coördinator of this new program. A part-time social worker is on the staff to counsel with the family and to assist the physician and the nurse in assessing a family's potential in carrying out its part in patient care. This kind of counseling gives hope to a family and helps its members marshal their own resources more effectively.

A physician who wishes to place a private patient on Home Care service should call the Visiting Nurse Association, Dupont 7-7333, and speak with Miss Van Buskirk, or request an application blank. The patient will be visited by the Visiting Nurse and the social worker, who will confer together with the physician in regard to the initial plan for the patient. Physical therapy and/or occupational therapy will be provided as requested by the physician. Usually the physician will wish a conference with the several therapists caring for his patient after several weeks, and later as required. Regular Visiting Nurse service is always available until these additional plans are made.

The Home Care pilot project is for private patients, under the care of their own physicians, and during this pilot study payment will be on a fee-for-service basis. Headquarters for this special project are in the VNA Building at 1842 Mintwood Place, N.W.

This pilot study in home care has been made possible through a $45,000 grant from the Eugene and Agnes E. Meyer Foundation over a period of 3 years; $20,000 has already been made available for the current year.

DOCTORS' DAY

Doctors' Day, March 30, is a project of the Woman's Auxiliary to the Southern Medical Association. It was adopted in 1935 and has gradually come to be observed in nearly every state in the Union.

Mrs. Charles B. Almond, a physician's wife of Winder, Georgia, originated the idea that a day each year be designated to honor the men and women of the medical profession, both living and dead, who by daily devotion to their duty of service to humanity minister to our health and welfare.

March 30 was chosen because it was on that day in 1842 that Dr. Crawford W. Long first used ether as an anesthetic agent during a surgical operation. Dr. Long, a man dedicated to his work, once said, "My profession is to me a ministry from God." Today, here in Washington, D. C., there stands a statue of Dr. Long in the hall leading to the Senate Wing of the Capitol.

The red carnation is the symbol of Doctors' Day and was adopted by the Auxiliary as the official flower in 1949.

The George D. Feldner Trophy, a bronze loving cup, is the highest award presented to a state for its county auxiliary submitting the best over-all Doctors' Day observance, regardless of size or county membership. This trophy was won in 1958 by the Woman's Auxiliary to the District of Columbia Medical Society.

The District of Columbia Auxiliary to the Southern Medical Association will be one year old on March 31 of this year. This will be our first participation in Doctors' Day and we are enthusiastic over our plans for March 30.

The District of Columbia Chapter of the Southern Medical Association and the Medical Society of the District of Columbia have been requested to select a physician to be honored for outstanding service to his profession. An award will be presented to him by the Woman's Auxiliary to the Southern Medical Association.

In the May ANNALS we will present a full report on the observance of Doctors' Day in the District of Columbia.

Until then, to you, Doctor, Happy Doctors' Day!

MRS. GEORGE WILLIAM WARE
Chairman, Doctors' Day Committee,
District of Columbia Auxiliary to
the Southern Medical Association

DANCE TO CELEBRATE DOCTORS' DAY

A Dinner Dance at the Columbia Country Club on April 4 will also celebrate Doctors' Day, which is March 30. This dinner dance is sponsored by the Woman's Auxiliary to the Medical Society of the District of Columbia and the Woman's Auxiliary to the Southern Medical Association. An attractive program has been arranged for the occasion.

News and Personals

MEETINGS

The Rheumatism Society of the District of Columbia is sponsoring a meeting in the Medical Society's building, Thursday evening, March 26, at 8 p.m. Announcement of the program will be mailed to members.

The Hippocrates Galen Society will hold its fifth scientific meeting at the Kennedy-Warren, 6:30 p.m., April 2. The essayist will be Dr. E. E. Ferguson. Dr. Walter H. Gerwig, Jr. will be called on to give the case report.

The Upjohn Company will sponsor the eighth in its series of closed-circuit telecasts, March 18, to originate from the Washington University School of Medicine, St. Louis. Washington physicians will be able to view the program from the auditorium in the D. C. Medical Society's building beginning at 9:00 p.m. The subject for the telecast will be "Chest Disease—Medical and Surgical." Participating panelists will be: Drs. Lauren V. Ackerman, Thomas H. Burford, and Alfred Goldman (Washington University); Dr. L. Henry Garland (Stanford University); Dr. Averill Liebow (Yale University); Dr. Richard H. Overholt (Tufts University); Dr. Leo G. Rigler (University of California at Los Angeles); and Dr. J. G. Scadding, Dean of the Institute of Diseases of the Chest, Brompton Hospital, London.

The program is approved for credit by the American Academy of General Practice.

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia held its regular meeting, January 26, 1959 with the new Chairman, Dr. Preston A. McLendon, presiding.

A new Finance Committee was appointed, consisting, according to precedence, of the Chairman, Dr. McLendon; Dr. Victor R. Alfaro, President-elect; and Theodore Wiprud, Secretary.

The Secretary reported that Dr. Wallace M. Yater, Editor of the MEDICAL ANNALS, had submitted the name of Captain Herschel E. Richardson, Assistant Chief of Medicine, the National Naval Medical Center, as Consulting Editor to succeed Captain Thirl E. Jarrett, M.C., U.S.N. The appointment was approved.

Dr. Henry C. Macatee submitted his resignation as a trustee of Hospital Service Agency. The Board expressed its regret that he has found it necessary to resign and expressed "deep appreciation for his past services."

It was voted that a special committee for medical journal exchange with physicians in underdeveloped countries, as suggested by Dr. Stanley J. Talpers, be created to consist of the following physicians: Dr. Talpers, Chairman; Dr. Julian W. Giles, and Dr. Robert R. Belton. The project was described by Dr. Talpers in an editorial which appeared in the January issue of the MEDICAL ANNALS.

A Guide for Practice, Medicolegal Relations, for the District of Columbia, which was approved at the Annual Business Meeting of the Medical Society, November 23, 1958, and published in full in the January, 1959 issue of MEDICAL ANNALS, is available in pamphlet form in the Medical Society's offices. Copies may be obtained by telephoning the Executive Offices of the Society, District 7-3111.

The Public Health Service is in need of physicians to work part-time on a contractual basis in health units in various Federal office buildings and to serve as Medical Officers in Charge of such units. Staffs of the units vary from 1 to 5 nurses. Hours can be arranged. The compensation is $9.00 for the first hour and $6.00 for each additional hour per visit. Further information may be secured by calling the Federal Employee Health Branch, PHS, Executive 3-6300, Extension 8177.

The Lilly Research Laboratories has an opening for a physician interested in medical editorial work. Although the position is a full-time one, the editorial activities would occupy about 80 per cent of the physician's time. The other 20 per cent would be free for clinical work, possibly at the Indianapolis General Hospital, or for clinical research or the teaching of medical students. Dr. D. C. Hines, Director of the Medical Division, Eli Lilly and Company, Indianapolis 6, Indiana, will be glad to provide full information.

The Charles W. Hyde addition to Doctors Hospital was dedicated, January 26, 1959. The new 66-bed wing has been named after the late Dr. Hyde, cofounder of the Hospital and formerly Treasurer and Director of the Medical Center, who died in 1955. The total number of beds at Doctors is now 303.

Especially honored at the ceremonies was Dr. Charles Stanley White, who has been President of the Hospital since it was built in 1940. The Board of Directors unveiled an oil portrait of Dr. White, painted by artist Bjorn Egeli, which will hang in the Library. Dr. White is head of the Department of Surgery.

The People to People Health Foundation, a new, tax-exempt, non-profit citizens' organization, plans to take over a Navy hospital ship and send it as a floating medical center on a goodwill mission to Southeast Asia. President of the Foundation is Dr. William B. Walsh, Clinical Assistant Professor of Medicine, Georgetown University School of Medicine. Vice President is Mr. Joseph T. Geuting, Jr., aircraft trade executive, and Secretary-Treasurer is Attorney Eugene M. Zuckert, former Assistant Air Force Secretary. Dr. Hugh H. Hussey, Dean of Georgetown University School of Medicine, will direct the "medical school" aspects of the ship.

Use of the 800-bed, World War II hospital ship, *U.S.S. Constellation*, not presently in operation, has been requested; President Eisenhower has promised the Navy will release the ship as soon as plans have developed sufficiently. Operating costs, estimated at about 3½ million dollars per year, will be met by public subscriptions and gifts, skills and supplies from individuals, corporations and other groups.

The Foundation plans to operate the ship and its permanent medical staff as a continuing gesture of good will to nations of Southeast Asia.

Dr. Henry P. Laughlin, formerly Active but now an Associate member of the Medical Society of the District of Columbia, has been elected **President of the Montgomery County Medical Society,** the second largest medical society in Maryland, with a membership of 400. Dr. Laughlin, who succeeds Dr. William T. Joyce, of Bethesda, is a practicing psychiatrist in the Chevy Chase area.

HENRY P. LAUGHLIN, M.D.

Other officers elected by the Society for 1959 are: Dr. Charles H. Lignon, Sandy Spring, Vice President; Dr. Henry W. Jaeger, Silver Spring, Secretary; and Dr. Maynard I. Cohen, also of Silver Spring, Treasurer. Dr. Cohen and Dr. Merton L. White, Chairman of Professional Relations, are also Associate members of the D. C. Medical Society.

The Medical Council of the Washngton Metropolitan Area has named a committee to assist the Red Cross Regional Blood Bank in providing city and suburban hospitals with blood. Dr. James M. Moss, of Alexandria, Chairman of the Council, stated that the Committee would act as a liaison between the hospitals and the Red Cross. Chosen for membership on the Committee were Dr. John A. Reisinger (D. C.), Dr. William Dolan (Arlington), Dr. C. John Burns (Prince Georges County), Dr. Edward McGarry (Montgomery County), Dr. H. H. Ferrell, Jr. (Alexandria), Dr. Robert O'Donnell (Fairfax), and Dr. Raymond Dart, Director of the Red Cross Blood Bank.

Dr. Warwick T. Brown, Administrator of the **Washington Hospital Center,** announces the establishment of the **Harris Kellar Williams Memorial Fund** to benefit the Leroy L. Sawyer Hearing and Speech Center of the Washington Hospital Center.

Young Harris Kellar Williams, who lost his life in an automobile accident on November 28, 1958, was the 17-year-old son of Dr. T. Frasier Williams, Director of the Hearing and Speech Department. The Fund originated when Dr. Williams' friends and associates as well as his son's classmates began to make donations. Contributions may be sent to the Leroy L. Sawyer Hearing and Speech Center of the Washington Hospital Center, Washington 10, D.C.

Dr. F. J. L. Blasingame, Executive Vice President of the American Medical Association, announces two new additions to its executive staff. **Mr. Edwin Patterson** of Washington, D. C., is the new **Manager of the AMA's Washington Office.** For the past 10 years Mr. Patterson has been director of the professional staff of the Veterans' Affairs Committee of the House of Representatives. He is a veteran of World War II and a graduate of Catholic University. Previous positions have been legislative contact man for the National Grange, managing editor of Congressional Intelligence News Agency, Senate reporter on the *Daily Digest*, and staff member of the National Grain Trade Council.

Dr. Franklin C. Yoder, Cheyenne, Wyoming, has been named **Director of the AMA Division of Socioeconomic Activities.** This Division will include the Bureau of Health Education, Economic Research Department, and the Councils on Industrial Health, National Defense, Medical Service, and Rural Health.

The Students American Medical Association is planning a **photographic salon** to exhibit the best medical and general interest photographs in the country at its 1959 convention in Chicago, which opens on April 30. Medical students, interns, residents and new physicians are eligible to participate.

This photographic program, believed to be the first annual national exhibition of its kind in the medical field, is sponsored to encourage physician-photographers, both in the scientific area and in photography as a fine art. Chairman of the judges' committee will be Dr. Max Thorek, founder of the International College of Surgeons and himself an outstanding physician-photographer. E. Leitz, Inc., of New York, American distributors of Leica cameras and Leitz microscopes, is lending full coöperation to the exhibit. A number of the awards will be Leica cameras and equipment. The address of SAMA is 430 North Michigan Avenue, Chicago 11, Ill.

A new center for the study of the effects of tranquilizing drugs on mental patients is in operation at St. Elizabeths Hospital under the name, **The Clinical Neuropharmacology Research Center.** The Center has been set up as a joint project of the National Institutes of Health and the Hospital, with Dr. Joel J. Elkes as director.

George Washington University School of Medicine and the American Speech and Hearing Foundation received checks in the amounts of $8,427 and $5,000, respectively, from the United Cerebral Palsy Association, February 10. The George Washington grant will be used for the study of anoxia in infants and the Foundation grant, to train therapists.

The Pan American Medical Society elected the following officers at its meeting, November 15:

Dr. J. Ogle Warfield, Jr., *President*; Dr. Darrell C. Crain, *First Vice President*; Dr. Carlos A. Dominguez, *Second Vice President*; Dr. James H. Scully, *Secretary*; and Dr. Adrian Recinos, Jr., *Treasurer*.

The Society, which includes most Latin and South American doctors in the Washington area, is affiliated with the Pan American Medical Association and is devoted to promoting international good will and the exchange of medical information.

The Northern Virginia Medical Council has elected the following officers for 1959:

Dr. Thomas E. Haggerty, Falls Church, *Chairman*; Dr. James M. Moss, Alexandria, *Vice Chairman*; Dr. Carl Parker, Falls Church, *Secretary*; and Dr. Robert Norment, Arlington, *Treasurer*.

The Medical Letter on Drugs and Therapeutics is a new publication designed to provide physicians with preliminary appraisals of new drugs as soon as possible after the drugs are marketed. It will be published fortnightly by Drug and Therapeutic Information, Inc., a nonprofit corporation, located at 136 East 37th Street, New York 22, N. Y.

PERSONALS

Rear Admiral Bartholomew W. Hogan, M.C., U.S.N., has been reappointed Surgeon General of the Navy and Chief of the Bureau of Medicine and Surgery for a 2-year period, terminating February 15, 1961. His reappointment was confirmed by the U. S. Senate on February 6.

Dr. Murray M. Copeland, Professor and Director of the Department of Oncology, Georgetown University School of Medicine, was elected Chairman of the Joint Committee for Cancer Staging and End Results Reporting, for the American medical profession. The election was held in Chicago, January 9, at the offices of the American College of Surgeons.

The Committee is composed of members and alternates designated by ACS, the American College of Physicians, the American College of Radiology, the College of American Pathologists, the American Cancer Society, and the National Cancer Institute.

Dr. Preston A. McLendon was Chairman of the Conference on the Role of Pediatric Services in the Prevention of Juvenile Delinquency, held, February 16–18, at the Arden House, Harriman, N.Y. Cosponsors of the Conference were the American Academy of Pediatrics and the Community Council of Greater New York.

Dr. McLendon is Chairman of the Academy's Committee on Juvenile Delinquency. Other Washington participants were Dr. George Maksim, Chairman of the Academy's Committe on School Health, and Dr. Reginald S. Lourie, Director of the Department of Psychiatry at Children's Hospital. Attending and participating in the Conference were physicians and individuals interested in child guidance from all sections of the United States.

Dr. Allen S. Cross has been appointed an affiliate member of the Commissioners' Urban Renewal Council for a 2-year term, beginning January 8, 1959. His appointment was made upon the recommendation of the District of Columbia Medical Society.

The Council was established as a citizen body to advise and assist the Commissioners in planning, redevelopment, conservation, rehabilitation, code enforcement, and such other public and private measures as may promote the orderly growth and well-being of the District of Columbia.

Dr. John D. Porterfield, Deputy Surgeon General of the Public Health Service, was named an Honorary Life member of the American Social Hygiene Association at the annual meeting of the Ohio Social Hygiene Council in Akron, Ohio, November 21, 1958. Dr. Porterfield is an Associate member of the District of Columbia Medical Society.

Four faculty members of Georgetown University School of Medicine received promotions effective September 1, 1958. They are:

Dr. Henry H. Balch, from Assistant to Associate Professor of Surgery.

Dr. Sol Katz, from Clinical to Associate Professor of Medicine.

Dr. George E. Schreiner, from Assistant to Associate Professor of Medicine.

Dr. James F. O'Rourke, from Clinical Instructor to Associate Professor of Surgery (Ophthalmology).

Dr. Fred L. Soper, who retired as Director of the Pan American Sanitary Bureau, February 1, will be honored by a lecture series in his name, to be known as the Fred L. Soper Lectures in International Health. The five lecture series will be given by outstanding medical personalities at leading Public Health Schools in the United States, Brazil, Chile, Mexico, and Canada. The first of the series is scheduled this fall at Johns Hopkins University School of

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
December 2	Dr. James F. O'Rourke	Senile Cataract as a Community Problem	Prevention of Blindness Society of Metropolitan Washington
January 19	Dr. Julius Schreiber	The Emotionally Healthy Family	Hadassah Bethesda - Chevy Chase Chapter
January 21	Dr. Marvin E. Perkins	Alcoholic Rehabilitation in the Public Health Program	National Temperance Council
January 22	Dr. Bernard F. Peacock	Physical and Psychological Aspects of Marriage	St. Matthew's Cathedral Club
January 22	Dr. Frank G. MacMurray, *Panelist*; Dr. Bernard Ostrow and Dr. Irene G. Tamagna, *Group Leaders*	Workshop on Cardiac Disabilities and Rehabilitation	D. C. Chapter, National Rehabilitation Association
January 28	Dr. Julius Schreiber	Dealing with the More Common Marital Problems	Tifereth Israel Congregation
February 1	Dr. William W. Krause	How to Deal with Your Tensions	Arlington-Fairfax Jewish Center
February 5	Dr. Henry P. Laughlin	How Is Your Emotional Health?	Glenmont Park Women's Club
February 7	Dr. Reginald Laurie	Defense Reactions in the Child with Speech and Hearing Defects	6th Annual Seminar, D. C. Society for Crippled Children
February 10	Dr. Raymond A. Osbourn	The New Guide for Practice, Medicolegal Relations, for the District of Columbia	Bar Association of D. C.
February 25	Dr. Marvin E. Perkins	The School Mental Health Program	Our Town—Art Lamb Show, WRC-TV

Hygiene, where Dr. Soper received his degree in public health in 1925.

Two staff members of Georgetown University School of Medicine were recently honored by election to membership in national scientific organizations. **Dr. Hubert V. Pipberger,** Instructor in Medicine, is now a member of the Instrument Society of America, **and Dr. Frank A. Finnerty, Jr.,** Assistant Professor of Medicine, a member of the American Therapeutic Society.

Dr. S. Alvin Steiner will begin his second year as resident in psychiatry at the University of Virginia in Charlottesville, April 1.

FINANCIAL STATEMENTS

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

BALANCE SHEET

December 31, 1958

ASSETS

Cash:		
General Fund	$75,767.81	
Building Fund	1,849.13	
Davidson Lecture Fund	271.75	
Bequest Fund	12,489.80	
Kober Library Fund	4,759.31	
Sterling Ruffin Bequest Fund	11,393.81	$106,531.61
Accounts Receivable		12,266.88
Securities		17,870.20
Fixed Assets—Net after Depreciation (Land, Buildings—1718 & 1710 M St., N. W., Furniture & Fixtures)		233,450.93
Other Assets (Grants to Rehabilitation and Cancer Programs)		14,901.43
TOTAL ASSETS		$385,021.05

LIABILITIES AND NET WORTH

Notes Payable (Union Trust Co.—for remodeling 1710 M St., N. W.)	$30,000.00
Accounts Payable (Trade Creditors)	5,292.10
Bonds Payable (called for redemption)	200.00
Collections for Trust and Other Funds (A.M.A. Dues 1959)	24,712.36
Other Liabilities (Grants and Taxes)	1,821.63
Deferred Income (Society Dues 1959)	39,279.30
TOTAL LIABILITIES AND DEFERRED INCOME	$101,305.39
NET WORTH	283,715.66
TOTAL LIABILITIES AND NET WORTH	$385,021.05

STATEMENT OF INCOME AND EXPENSES

Year Ended December 31, 1958

INCOME:		
Membership Dues	$66,790.00	
Other Income:		
Medical Annals	63,097.50	
Medical Bureau	99,304.60	
Annual Scientific Assembly (Net)	1,480.26	
Rental Income 1710 M St., N. W.	6,257.50	
Miscellaneous	1,239.14	
TOTAL INCOME		$238,169.00

Statement of Income and Expenses
(*Continued*)

EXPENSES:			
Maintenance of Building		$ 6,112.22	
Maintenance of Office:			
Staff Salaries (9 Employees)	$36,664.32		
Operating Expenses	8,795.78	45,460.10	
Society General and Special Expenses		13,747.70	
Expenses of Property—1710 M St., N. W.		7,239.83	
Medical Annals:			
Salaries (2 full-time employees and the Managing Editor)	$11,825.50		
Operating Expenses	46,269.36	58,094.86	
Medical Bureau:			
Salaries (26 full- and part-time operators, the Manager, and the Executive Director)	$71,296.65		
Operating Expenses	22,305.58	93,602.23	
TOTAL EXPENSES EXCLUSIVE OF DEPRECIATION			224,256.94
Excess of Income over Expenses before Depreciation			$13,912.06
Deduct: Depreciation and Transfers			8,273.28
NET INCREASE IN NET WORTH			$5,638.78

Note: The Society's financial records were audited and found in order by Wayne Kendrick & Company, Certified Public Accountants of Washington, D. C. These reports were submitted to the Executive Board of the Medical Society of the District of Columbia on January 26, 1959, and accepted upon the recommendation of its Finance Committee.

ESTIMATED BUDGET 1959*

INCOME:			
Membership Dues		$70,505.00	
Other Income:			
Medical Annals		62,195.00	
Medical Bureau		97,850.00	
Annual Scientific Assembly (Net)		1,000.00	
Rental Income—1710 M St., N. W.		7,500.00	
Miscellaneous		1,300.00	
TOTAL INCOME			$240,350.00
EXPENSES:			
Maintenance of Building		$6,200.00	
Maintenance of Office:			
Staff Salaries (9 Employees)	$41,600.00		
Operating Expenses	8,400.00	50,000.00	

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* Adopted by the Executive Board of the Medical Society of the District of Columbia, January 26, 1959.

Estimated Budget 1959
(Continued)

Expenses (Continued):			
Society General and Special Expenses		13,770.00	
Expenses of Property—1710 M St., N. W.		7,950.00	
Medical Annals:			
Salaries (2 full-time employees and the Managing Editor)	$12,436.00		
Operating Expenses	48,181.67	60,617.67	
Medical Bureau:			
Salaries (26 full- and part-time operators, the Manager, and the Executive Director)	$74,652.00		
Operating Expenses	23,085.90	97,737.90	
TOTAL EXPENSES			236,275.57
Excess of Income over Expenses			$4,074.43
Less: Transfer to Building and Equipment Funds			3,000.00
NET EXCESS OF INCOME OVER EXPENSES			$1,074.43

Pathogenesis of Arteriolonecrosis—Brownlee et al

(Continued from page 124)

Summary

The role of arterial pressure in the development of arteriolonecrosis has been demonstrated with protection against these lesions in an intestinal loop whose artery has been constricted so that blood supply remains intact but pressure is reduced. It is postulated that the sudden increased arterial pressure is the causative agent of arteriolonecrosis.

N.B.: Acknowledgment is made of the valuable assistance of the other members of the Cardiovascular-renal Research Group who contributed significantly to this project. They are William G. Pogue, M.D., Mary Gaspar, M.S., Eula Hawthorne, R.N., and Harry K. Thompson, B.S.

BIBLIOGRAPHY

1. Smithwick, R. H.: Hypertension: A Symposium. Minneapolis: Univ. Minnesota Press, 1951.
2. Saltz, M., Sommers, S. C., and Smithwick, R. H.: Circulation, 1957, **16**, 207.
3. Goldring, W., and Chasis, H.: Hypertension and Hypertensive Disease. New York: Commonwealth Fund, 1944.
4. Pickering, G. W., Wright, A. D., and Heptinstall, R. H.: Lancet, 1952, **2**, 952.
5. Schottstaedt, M. F., and Sokolow, M.: Am. Heart J., 1953, **45**, 331.
6. Schroeder, H. A., Morrow, J. D., and Perry, H. M., Jr.: Circulation, 1954, **10**, 321.
7. Hawthorne, E. W., Brownlee, G. V., and Jason, R. S.: Am. J. Physiol., 1956, **185**, 474.
8. Braun-Menéndez, E., and others: Renal Hypertension. Translated by Lewis Dexter. Springfield, Ill.: Thomas, 1946.
9. Goldblatt, H.: J. Exper. Med., 1938, **67**, 809.
10. Child, C. G.: Ibid., 1938, **67**, 521.
11. Page, 1. H., and Corcoran, A. C.: Experimental Renal Hypertension. American Lectures in Physiology. Springfield, Ill.: Thomas, 1948.
12. Page, I. H., and Corcoran, A. C.: Arterial Hypertension: Its Diagnosis and Treatment. Chicago: Yr. Bk. Pub., 1945.
13. Dameshek, W., and Lowman, J.: Am. J. Physiol., 1932, **101**, 140.
14. Haden, R. L.: J. Biol. Chem., 1923, **56**, 469.
15. Folin, O., and Wu, H.: Ibid., 1919, **38**, 81.
16. Wakerlin, G. E., and others: J. Lab. & Clin. Med., 1953, **41**, 708.
17. Burns, R. O., Jr., and Wakerlin, G. E.: Circulation Res., 1953, **1**, 454.
18. Hawthorne, E. W.: Personal communication.
19. Muirhead, E. E., Vanatta, J., and Grollman, A.: Arch. Path., 1950, **50**, 137.
20. Wakerlin, G. E.: Physiol. Rev., 1955, **35**, 555.
21. Selye, H.: The Story of the Adaptation Syndrome. Montreal: Acta, Inc., 1952.
22. Winternitz, M. C., Mylon, E., and Katzenstein, R.: Yale J. Biol. & Med., 1941, **13**, 789.

Sarcoidosis—Harden, Barthakur and Carr

(*Continued from page 133*)

SUMMARY

A classification of pulmonary sarcoidosis based upon pulmonary function tests was presented. The particular patterns represented in the classification are normal, restrictive, obstructive and alveolar-capillary block.

Of the 16 patients studied 3 had normal studies, 6 showed a restrictive pattern, 6 showed an obstructive pattern, and 1 had uncompensated ventilatory insufficiency and the autopsy findings were presented.

There was a closer relationship between the symptoms of the patients and their pulmonary function findings than with the pulmonary involvement as revealed by the chest film.

The functional abnormalities would appear to be related to the anatomic distribution of the lesions as well as to their character and extent.

BIBLIOGRAPHY

1. Cournand, A.: Syndrome of "alveolar-capillary block": clinical, physiologic, pathologic and therapeutic considerations. Roy. Coll. Physicians and Surgeons of Canada, Report of Annual Meeting and Transactions, October, 1952.
2. Coates, E. O., and Comroe, J. H., Jr.: Pulmonary function studies in sarcoidosis. J. Clin. Invest., 1951, **30,** 848.
3. Stone, D. J., Schwartz, A., Feltman, J. A., and Lovelock, F. J.: Pulmonary function in sarcoidosis: results with cortisone therapy. Am. J. Med., 1953, **15,** 468.
4. Williams, M. H., Jr.: Pulmonary function in Boeck's sarcoid. J. Clin. Invest., 1953, **32,** 909.
5. Spain, D. M.: Patterns of pulmonary fibrosis as related to pulmonary function. Ann. Int. Med., 1950, **33,** 1150.
6. Turiaf, J., Marland, P., Rose, Y., and Sors, C.: Valeur des renseignements fournis par la bronchoscopie et la biopsie de la muqueuse bronchique pour le diagnostic des formes pulmonaires de la sarcoïdose de Besnier-Boeck-Schaumann. J. franç. méd. et chir. thorac., 1953, **7,** 188.
7. Harden, K. A., and Barthakur, A.: "Cavitary" lesions in sarcoidosis, in press.

Perforative Appendicitis in Pregnancy—Clark and Cabaniss

(*Continued from page 147*)

3. Priddle, H. D., and Hesseltine, H. C.: Acute appendicitis in obstetric patient. Am. J. Obst. & Gynec., 1951, **62,** 150.
4. Hoffman, E. S., and Suzuki, M.: Acute appendicitis in pregnancy, West. J. Surg., 1950, **58,** 147.
5. Dickenson, J. C.: Acute appendicitis complicating pregnancy. Canad. M. A. J., 1956, **74,** 367.
6. Greenhill, J. P.: Obstetrics, 11th ed. Philadelphia: Saunders, 1955.

ECFMG Finishes Its First Year—Smiley

(*Continued from page 166*)

tions of foreign medical graduates already in this country for admission to the licensing examinations of our various State Boards.

It would appear that the original plan of the Co-operating Committee for the development of such an organization is feasible in all of its major aspects. The long-term practicability and usefulness of the plan will depend to a considerable extent on the success our Examination Committee has in developing our American Medical Qualification Examination as an effective device for measuring medical knowledge and yet worded in sufficiently basic English to enable foreign-trained doctors to fairly register their medical knowledge in spite of their limited command of the English language.

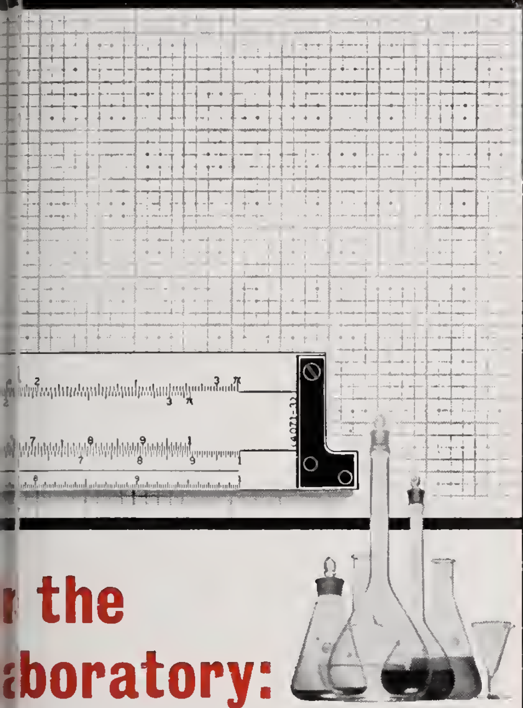
Red Cross Courses in Home Nursing

(*Continued from page 168*)

programs. They work in the Red Cross Blood Program and as instructors of home nursing and nurse's aides. They assist civil defense authorities and they are on call for emergency duty whenever disaster strikes or epidemics threaten.

As part of the Golden Anniversary celebration, the D. C. Chapter held a special program on March 12, the birthday of Jane A. Delano, Superintendent of the Army Nurse Corps, who was founder and first chairman of the National Red Cross Nursing Services.

Today's Red Cross nurse is a worthy successor to Clara Barton, who, with the help of Jane A. Delano, organized the first Nation-wide Red Cross Nursing Program on May 5, 1909. Throughout the Nation some 58,000 professional nurses are enrolled as volunteers for community service through Red Cross Chapters.



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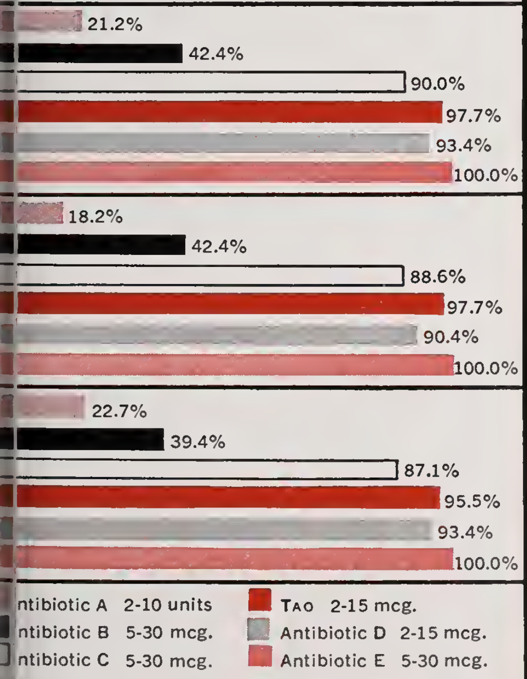

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Highly palatable – "practically tasteless"[7] active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. **For adults,** the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. **For children** 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules – 250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension – 1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Kareiitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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To eradicate pain and physical discomfort in respiratory disorders.

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For dual control of Gram-positive and Gram-negative infections.

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Book Reviews

Pye's Surgical Handicraft. A Manual of Surgical Principles, Minor Surgery, and other matters connected with the work of surgical dressers, house surgeons and practitioners, 17th ed., fully revised. Edited by Hamilton Bailey, F.R.C.S. (Eng.), F.A.C.S., F.R.S. (Edin.). Price, $10.00. Pp. 800, with 860 illustrations. Baltimore: Williams & Wilkins, 1956.

"Pye's Surgical Handicraft" is a well written volume which had evolved from a manual for interns, originally written over 60 years ago. The addition to surgical knowledge has necessitated frequent revisions, and the Seventeenth Edition represents a complete text for the guidance of house officers and students. An amazing amount of detail for the care of every type of surgical patient is given in straight-forward, easily understood language. The chapters on anticoagulants, antibiotics, and fluid balance are especially well written.

The book not only covers the pre- and postoperative care of every type of surgical case, but also many small, otherwise untaught details, such as bandaging, casting, technics of vein puncture and lumbar puncture, and even the administration of enemata (an almost lost art). It also includes chapters on hospital administration, certificates, medicolegal reports, and incapacity evaluations.

This is a volume which is recommended to each senior medical student as he prepares to enter his hospital training, to house officers, and to each member of the teaching staff of surgical hospitals.

Luther W. Gray, M.D.

The Management of Emergencies in Thoracic Surgery. John Borrie, M.B.E., Ch.M., F.R.C.S. (Eng.), F.R.A.C.S. Foreword by Sir Russell Brock. Price, $10.00. Pp. 340. New York: Appleton, 1958.

This book provides a much needed primer for the surgeon, house officer and student alike. It is also a ready reference book for the internist and practitioner who wish to acquaint themselves with a particular problem in the realm of thoracic surgery.

Mr. Borrie displays the traditional English style of writing; he is brief, to the point, and states the problem in simple, clear language. Every chapter has a brief historical introduction when necessary, then plunges immediately into the meat of the topic. The salient features are arranged into a dogmatic outline; the cardinal points or points to be emphasized are italicized. Many of the standard and important facets of the subject are illustrated by excellent line drawings, photographs and roentgenograms.

In addition to the accepted emergencies of traumatic nature, Mr. Borrie describes emergencies which may be the sequel of a standard procedure, for example, atelectasis following lobectomy. He then goes into an excellent discussion of the treatment, in outline form, and with the necessary illustrations.

The book is printed on glossy paper with clear type. It is divided into several sections: General Thoracic Surgical Procedures; Chest Wall Emergencies; Pleural Emergencies; Pulmonary Emergencies; Esophageal Emergencies; Mediastinal Emergencies; Diaphragmatic Emergencies, and Cardiac Emergencies.

In summary, this book provides an excellent source of information which can be assimilated quickly by those who must treat a particular chest problem, whether it be an emergency or not.

John M. Keshishian, M.D.

The Care of the Geriatric Patient. Edited by E. V. Cowdry, Ph.D., Sc.D. (Hon.). Price, $8.00. Pp. 438. St. Louis: Mosby, 1958.

This book presents a rather broad appraisal of the medical care of the elderly patient. There are 22 contributors, including many in paramedical fields. Herein, the geriatrician is defined as a general practitioner or internist with special interest in elderly patients. He should be endowed with great patience and human understanding.

Modern concepts of the serious diseases of old age, such as heart disease, cancer, obesity, and arteriosclerosis, are considered thoroughly. Relative to these diseases, there is a considerable degree of overlapping of data from chapter to chapter. This serves well the purpose of emphasis.

Many of the organic maladies of old age appear to be the cumulative results of youthful psychosomatic illnesses and prolonged habits.

The chapter on the psychologic aspects of geriatrics is well written and informative. It is pointed out that the elderly patient cannot adjust well to change of any type, including environmental, social and psychologic changes. The controversy concerning changes in general intelligence with increasing age is fairly presented but not resolved. Many of the psychologic problems of old age are related to (1) feelings of rejection by society and family, (2) unemployment and inactivity, (3) loss of lifelong spouses and friends, and (4) insecurity due to lowered economic status.

The authors believe that older patients as a group

(*Continued on page 58*)

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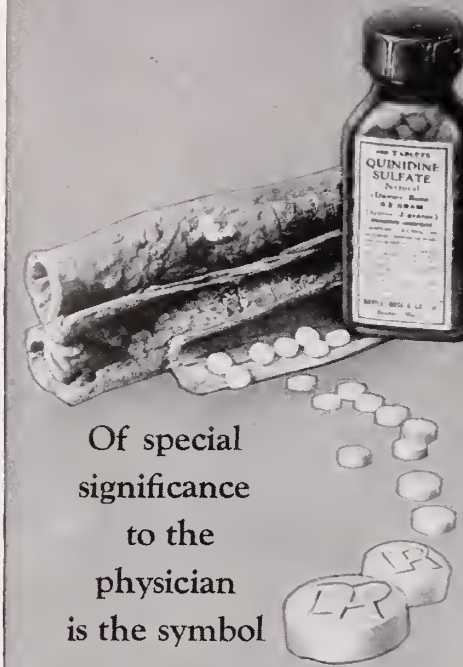

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Book Reviews

(*Continued from page 54*)

tolerate elective surgery and anesthesia provided every effort is made to improve their nutritional and functional status. Since emergency surgery is poorly tolerated, it is generally better to operate electively in cases where an emergency situation may eventually arise out of an asymptomatic, surgically correctible condition.

There is a comprehensive and valuable chapter on the nutritional care of the elderly.

Finally, the many national, state and local agencies providing aid to the medical profession in the care of geriatric patients are capably enumerated and discussed.

Jack E. White, M.D.

Reticular Formation of the Brain: Henry Ford Hospital International Symposium. Edited by: Herbert H. Jasper, Lorne D. Proctor, Robert S. Knighton, William C. Noshay, and Russell T. Costello. Price, $16.00. Pp. 766, illustrated. Boston: Little, 1958.

This is a report of a symposium on the reticular formation with contributions by 35 of the most distinguished experts in this field. Interest and research in this subject have expanded rapidly, especially in the last 5 years, and the participants attempt to examine, crystallize, and relate the massive accumulation of experimental and clinical data. Various disciplines were represented at the symposium, the main divisions being neuroanatomy, neurophysiology, and behavioral studies.

The reticular system emerges as an incredibly complicated but precisely organized system of neurons that appears to function as a prime central mechanism for arousal, activation, control, and integration of brain function and of behavior.

The participants attempt to reconcile the differences regarding the correlation of structure and function, and efforts are made to classify more precisely the nuclei and tract systems that are embraced by the now broadened concept of reticular formation. Conventional technics and also newer methodological approaches were employed to investigate the reticular system in man and animals. Drug actions were studied, including tranquilizers and anesthetics, and the effects of various drugs on the reticular system and also on the cortex. Experimental data and theoretical inferences regarding the participation of the reticular system in endocrine regulation are presented, including observations on central nervous system control of ACTH secretion.

Stimulation of the reticular system arouses and activates the rest of the central nervous system in a general indiscriminate excitation. But directed and selective arousal or activation is also possible by specific and controlled stimulation of selected parts of the reticular system. The possible implications of this for understanding, perception, attention, discrimination, habit formation,

(*Continued on page 63*)

Book Reviews

(*Continued from page 58*)

instinct, learning, and higher mental processes were suggested. The important role of inhibitory as well as excitatory function of the reticular system was presented. The role of the reticular formation in motor function and of posture was discussed; e.g., a neurohumoral explanation for torticollis was offered. Stress accentuates abnormal movements and posture by an outpouring of acetyl choline, which hyperstimulates specific sensitized denervated cells.

This volume offers a comprehensive authoritative and up-to-date delineation of one of the most significant developments in neurophysiology, clinical neurology, and psychology. It will be of interest to workers in these fields as well as to the research scientists.

Harold Stevens, M.D.

Experimental Pharmacodynamics, 2nd ed. T Koppanyi and A. G. Karczmar. Price, paper, $5.50 Pp. 258. Minneapolis: Burgess, 1958.

The second edition of this book by two experienced teachers of pharmacology introduces a number of new experiments and includes many new drugs. The contents follow in outline that of most modern textbooks, considering, first, the problems of general pharmacology, then those of the central autonomic nervous system, cardiovascular system, renal system, and, last, those of chemotherapy. There is an appendix on prescription writing.

A summary of the pharmacology of the drugs to be used in the experiments, sometimes several pages in length, begins each of the sections. Each of more than 100 experiments is outlined clearly, step by step. At the end of each section there is a discussion of the clinical bearings of the experiments and a well chosen bibliography. Thus the book is appreciably more than a laboratory manual; it is an additional means of presenting to the students, in a somewhat different fashion, much of the material ordinarily contained in lectures. This studied duplication should serve to strengthen appreciably the usual presentation to medical students.

Paul K. Smith, Ph.D.

The Eternal Search. The Story of Man and His Drugs. Richard R. Mathison. Price, $5.95. Pp. 381. New York: Putnam's, 1958.

The "Eternal Search" is described as a kaleidoscopic survey of the world's drugs and medicines. This appears to be an accurate description to any one who has ever seen a kaleidoscope. The beginning of the book is one of constantly changing scenes and ideas with frequent repetition. The style is not easy to follow and the reviewer had to start the book on several different occasions before he could get far enough into it to become en-

(*Continued on page 72*)

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Dosage:

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6 months to 2 years	1.5 to 2 cc.	
2 to 6 years . .	3 cc.	
adults and children over 6	1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

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[1] Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.

Book Reviews

(*Continued from page 63*)

grossed. This he did as time went on and he saw that it turned into a fascinating story of drugs and medicines.

Of particular historical interest is a table of "Diseases and Casualties This Week," published August 15–22, 1665, in London. Among the 50 causes listed are:

Consumption	126
Convulsion	89
Cough	1
Griping in the guts	79
Plague	4,237
Shingles	1
Teeth	111
Wormes	20
Dropsy	53
Feaver	348
Pox & smallpox	11
Jaundies	7
Rupture	1
Spotted feaver	166
Ulcer	1
Frighted	2
Grief	3
Flux	1
Infants	12
Scurvy	3
Suddenly	2
Vomiting	10

Occasional statements in the book by the author are of doubtful accuracy; for example, he refers to iron deficiency anemia as "comparatively rare." Most experts in this country find one-third of women have some anemia of this type. Hospital populations show an even higher percentage.

References to the historical derivation of some of our expressions are extremely interesting; for example, the book gives us the origin of words and phrases like witch hazel, gibberish, garbling, patent medicine, quacks, alcohol, potter's field, assassin, oaf, berserk, tobacco, condom, fanatic, cocktails, go to the Devil, and beer and skittles.

The book should be of value to all pharmacologists as historical background. It will also prove useful to those medical pharmacologists associated with regulatory agencies like the Food and Drug Administration. It will help them in their never-ending fight against nostrums and quackery. It may prove interesting to pharmacists since it shows the origin of the apothecary and his relation to the grocer.

If the first part of the book could be rewritten it might become as great a best seller as "Fifty Million Guinea Pigs" was a few decades ago.

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MEDICAL ANNALS
of the
DISTRICT OF COLUMBIA

VOLUME XXVIII April, 1959 NUMBER 4

WALTER REED ARMY MEDICAL CENTER NUMBER

This is the second of a series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions in the Washington Metropolitan Area. Brig. General Francis W. Pruitt, M.C., U.S.A., Consulting Editor of the MEDICAL ANNALS, to whom the Editorial Board is indebted for the material in this Scientific Section, submitted too many articles to be included in one issue. Others will appear in subsequent issues of the ANNALS.

ROENTGENOGRAPHY OF THE PORTAL VENOUS SYSTEM

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COLONEL B. H. SULLIVAN, JR., M.C., U.S.A.
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A SUBSTANTIAL proportion of patients with upper gastrointestinal hemorrhage bleed from esophageal or gastric varices. Obstruction to the normal outflow tract of the portal venous system leads to portal hypertension and the development of collateral venous channels, of which the most important are the gastric and esophageal varices. Surgical measures for the relief of increased pressure in the portal vein are the portacaval and splenorenal shunts. The procedure employed will be dictated by the site of obstruction, intrahepatic as in cirrhosis of the liver, or extrahepatic as in cavernous transformation or thrombosis of the portal vein. Those surgeons who pioneered the shunt operations injected contrast material into a suitable vein at the time of laparotomy and contented themselves with a single radiograph.[1, 2, 3] The portacaval shunt is performed through a right thoraco-abdominal incision, the splenorenal shunt through an incision on the left. The surgeon was thus required to make his incision without knowing definitely on which side of the abdomen he would be operating. In 1951 deSousa Pereira[4] obtained radiographic visualization of the portal vein after injecting contrast material into the spleen at laparotomy. Other European workers developed the percutaneous splenic approach, first in dogs,[5] then in humans.[6, 7] The method has gradually gained acceptance as its safety and utility have been demonstrated.[8-16] Atkinson and Sherlock[17] in 1954 measured the intrasplenic pressure just prior to the injection of contrast material, and proved this pressure to be substantially the same as that in the portal vein. Percutaneous splenoportography as now applied provides a means for the delineation of the size and location of the various elements of the portal venous system and its collaterals. Measurement of the splenic pulp pressure at the same time establishes the presence or absence of portal hypertension and quantitates its severity.

This diagnostic method has been used at Walter Reed Army Hospital since July 1957 for the investigation of all patients suspected of having portal hypertension. We propose to report our experience with percutaneous splenoportography and to emphasize by case reports the major indications for this procedure.

TECHNIC

Contraindications are the same as for liver biopsy: an uncoöperative patient, prolongation of bleeding or clotting time, prothrombin time less than 40 per cent of normal, or a platelet count below 60,000. A nonpalpable spleen is more difficult to puncture, but does not contraindicate the procedure.

Analgesia is provided by 75 to 100 mg. of meperidine hydrochloride intravenously. Sensitivity to the contrast material is determined by the administration of 1 ml. of 50 per cent sodium diatrizoate (Hypaque) intravenously. With the patient positioned on the X-ray table, and after infiltration with local anesthetic, a no. 18 spinal needle is inserted, via the eighth or ninth left intercostal space between the mid- and posterior axillary line into the spleen. The patient holds his breath in mid-inspiration while the needle is being inserted and whenever the needle is manipulated. Correct placement of the needle is indicated by a free flow of blood when the stylet is removed. Pressure measurements are made with a spinal fluid manometer, filled with normal saline, and connected to the needle by a length of polyethylene tubing. Use of this flexible tubing makes it possible for the patient to breathe during the pressure measurement without risk of tearing the splenic capsule. Roentgenograms are obtained by disconnecting the manometer and injecting 25 ml. of 50 per cent sodium diatrizoate rapidly into the spleen. The patient should not breathe at this time. Serial films are exposed for 8 to 12 seconds after the injection is begun. If only a single exposure is to be made, it is best timed to coincide with the completion of the injection of contrast material. The needle is removed when the injection is completed. The patient is required to remain at complete bedrest for 24 hours, and is observed for evidence of intraperitoneal hemorrhage or other complication.

RESULTS

During the 15-month period beginning July 1957, 40 splenoportograms were performed on 32 patients. There were 25 males and 7 females; the ages ranged from 7 to 68 years. The average age was 45 years. Portal hypertension was present in 25 patients; ascites had been present at some time in 16 of the patients. Esophageal varices were found in 26 patients, and 15 had experienced upper gastrointestinal hemorrhage. Twenty patients had surgical shunt procedures for the relief of portal hypertension, either before or after splenoportography. Diagnoses included portal cirrhosis in 16 patients (3 having an associated hepatoma), postnecrotic cirrhosis in 6, portal vein thrombosis in 3, hepatic sarcoidosis in 2, and 1 patient each having biliary cirrhosis, juvenile cirrhosis, hemangioma of the liver, hemochromatosis and fibrocystic disease.

The results are summarized in table 1. Adequate radiographic demonstration of the portal venous system was obtained in 26 of the 32 patients (81 percent), but in only 30 of the 40 procedures (75 per cent) were the results satisfactory. When possible, splenic pulp pressures were compared with the measurements made directly in the portal vein at the time of laparotomy. Reasonably accurate splenic pulp pressures were obtained in 28 of the 32 patients (88 per cent) and in 33 of the 39 procedures (85 per cent). Considering these sets of data collectively, it can be stated that useful information was obtained in 94 per cent of the patients and in 90 per cent of the examinations. The reasons for failure were rather evenly divided between improper needle placement, splenic subcapsular retention of contrast material, and mechanical malfunction of the radiographic equipment.

TABLE 1

Success of Splenoportography

	No. Done	No. Successful	Per cent Successful
Adequate visualization			
Patients	32	26	81
Procedures	40	30	75
Accurate manometrics			
Patients	32	28	88
Procedures	39	33	85
Combined productivity			
Patients	32	30	94
Procedures	40	36	90

COMPLICATIONS

Only 2 patients experienced complications. The first, because of a right pleural effusion and ascites, was unable to hold his breath for the required periods during the procedure and afterward gave evidence of intraperitoneal hemorrhage. Transfusion with 1 liter of whole blood was required. The other patient experienced a fall in his hematocrit 24 hours after the examination, but transfusion was not required. A few patients, especially those in whom the contrast media was seen to extravasate into the peritoneal cavity, required an injection of meperidine hydrochloride for the relief of abdominal or shoulder pain. These symptoms rapidly abated in all patients and are not considered to be complications.

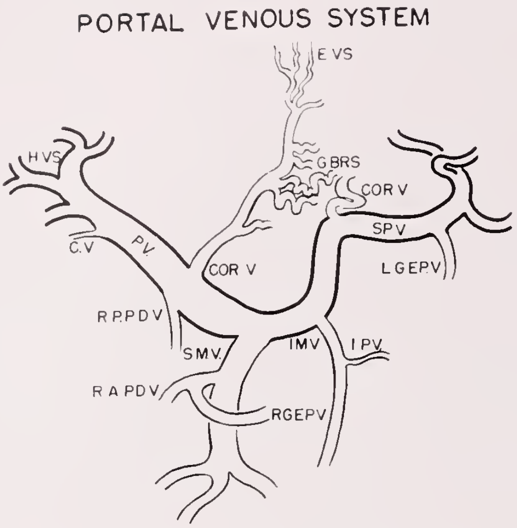
DISCUSSION

Our results are similar to those reported by others. DeWeese and associates,[15] for example, in the largest series yet reported, noted a success rate of 84.3 per cent of a total of 134 splenoportograms. Turner, Sherlock and Steiner,[18] who have a considerable experience with this procedure, recently reported 112 successful venograms in 126 attempts. Thus the combined success rate from these 2 groups is 86.5 per cent of 260 procedures, which, while higher than others, represents what may be expected with more experience.

The complication rate appears to be quite low, both in our series and in the literature. Although 300 to 400 ml. of blood has occasionally been noted in the peritoneal cavity of patients coming to laparotomy immediately after splenoportography, this does not occur often. Transfusions for clinical evidence of blood loss have rarely been required. Only 2 cases[19] have been reported in which splenectomy was performed because of continued hemorrhage. There is no report of a fatality due to this procedure. Its safety is such that Sherlock now performs splenic pressure measurements as a bedside procedure. Figley,[20] after reviewing 125 of his own cases and 500 from the literature, found that bleeding sufficient to require transfusions occurs in about 2 per cent of the patients subjected to this procedure.

INTERPRETATION OF SPLENOPORTOGRAMS

The normal portal venous system with its various tributaries is illustrated in figure 1. It should be noted that physiologically these tributaries drain into either the splenic or portal vein; therefore, the injection of contrast material into the spleen should opacify only the splenic and portal veins. When portal hypertension exists, retrograde flow through 1 or



E.VS. – Esophageal veins
H.VS. – Hepatic veins
C. V. – Cystic vein
SP. V. – Splenic vein
R.A.P.D.V. – Right Anterior Pancreatic Duodenal vein
I.M.V. – Inferior Mesenteric vein
R.P.P.D.V. – Right Posterior Pancreatic Duodenal vein

G.BRS. – Gastric branches
COR. V. – Coronary vein
P. V. – Portal vein
L.G.E.P.V. – Left Gastro-Epiploic vein
S.M.V. – Superior Mesenteric vein
I.P.V. – Inferior Pancreatic vein
R.G.E.P.V. – Right Gastro-Epiploic vein

Figure 1.

more of these tributaries may produce a natural shunt to allow some decrease in portal vein pressure. In this circumstance, contrast media will opacify the tributaries participating in the pressure release mechanism. As a rule of thumb, then, one may assume that any vessel visualized other than the splenic or portal veins is functioning abnormally as a portal-systemic vascular shunt. In addition, the portal venous system responds to elevation of its pressure by both dilatation and increased tortuosity of the individual vessels.

Indications for Splenoportography

1. *Detection and quantitation of portal hypertension.* Any patient with hepatic cirrhosis, splenomegaly, or gastrointestinal hemorrhage is a candidate for portal hypertension. Radiographic examination of the upper gastrointestinal tract will reveal esophageal varices in only 25 per cent of the cases where they are demonstrable by esophagoscopy. The presence of varices does not always prove the existence of portal hypertension. Varices occasionally persist after the surgical or spontaneous development of shunts between the portal and caval systems has reduced the pressure to normal levels. Rarely varices may appear for reasons unrelated to portal vein pressure. Even though varices are present, it is necessary to prove that the portal vein pressure is increased before a portacaval shunt can be considered. If the pressure is normal, beneficial results cannot be expected from the operation. The following case illustrates that significant portal hypertension may be present, even though the esophageal varices are small.

Case 1. A 68-year-old man noted dyspnea, orthopnea, weakness and tarry stools in March 1957. Cardiomegaly, atrial fibrillation, melena and a hemoglobin of 6.8 Gm. per 100 ml. were found. Upper gastrointestinal X-ray examination, gastroscopy and esophagoscopy did not demonstrate the cause of the hemorrhage. No bleeding site was located at laparotomy in May 1957, but liver biopsy at this time showed "mild cirrhosis." Postoperatively the melena ceased, but mild ascites appeared. Hematemesis and melena in August 1957 caused the esophagoscopy and X-ray examinations to be repeated with findings suggestive of esophageal varices. The bleeding stopped coincident with the use of the Blakemore-Sengstaken tube and multiple transfusions. The patient was admitted to Walter Reed Army Hospital, August 10, 1957. There was no history of alcoholic excess, dietary deficiency, exposure to hepatotoxins, previous jaundice, or liver disease.

Physical examination showed the patient to be poorly nourished, chronically ill, and passing tarry stools frequently. The blood pressure was 138/80, and the pulse rate 80 per minute; the pulse was grossly irregular. The liver was palpable 2 cm. below the right costal margin and was firm but not tender.

Laboratory examinations revealed an anemia with a hemoglobin of 8.4 Gm. per 100 ml. and a hematocrit of 23 per cent; there were 140,000 platelets per cu. mm. The blood urea nitrogen was 65 mg. per 100 ml. Except for a bromsulfalein retention of 15 per cent at 45 minutes all liver function tests were normal.

Following cessation of hemorrhage, esophagoscopy revealed small varices in the distal esophagus. Liver biopsy demonstrated a rather severe postnecrotic cirrhosis with much fibrosis. A splenoportogram was obtained; the splenic pulp pressure was found to be 350 mm. of saline. The roentgenogram demonstrated dilated but patent splenic and portal veins and collateral channels passing from the splenic vein to the region of the gastric cardia (coronary and short gastric veins and fundic plexus) and lower esophagus (figure 2). Based upon this information a portacaval shunt was performed on September 6, and a drop in portal vein pressure from 300 to 170 mm. of saline occurred. The patient convalesced uneventfully and was returned to his own care 2 weeks after surgery. There has been no recurrence of the hemorrhage.

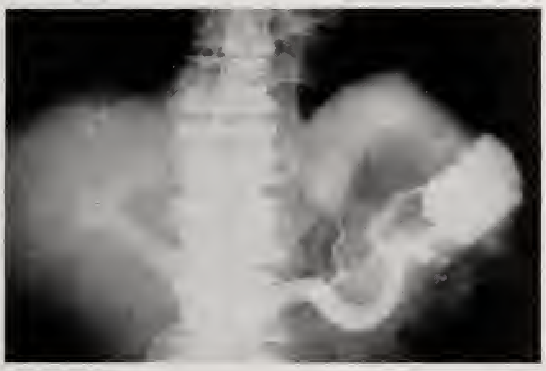


FIG. 2. Case 1. Tortuosity of splenic vein and opacification of fundic plexus via the coronary collateral.

The diagnosis of portal hypertension and esophageal varices escaped recognition even at laparotomy because the liver was small, liver function studies were near normal, and the esophageal varices were small. Intrasplenic pressure measurements demonstrated significant portal hypertension, and the venogram proved that the portal vein could be used in the construction of a shunt.

2. *Preoperative selection of the proper surgical shunt.* Since splenorenal and portacaval shunt procedures are performed on opposite sides of the abdomen, it is extremely important for the surgeon to know in advance which procedure is to be employed. For example, a portacaval shunt operation cannot be performed if the portal vein is thrombosed or has undergone cavernous transformation from long-standing occlusion. A splenorenal shunt procedure, with its greater tendency to thrombose, should not be performed if the portal vein is patent or if most of the natural collaterals will be destroyed by its construction. For accurate selection of the proper shunt operation we should have the following information:

a. The degree of portal hypertension
b. The patency of the major veins
c. The size of the splenic and portal veins
d. The degree of compensatory collateral vein formation
e. The region of greatest collateral formation (portal or splenic).

Only percutaneous splenoportography can supply this information preoperatively to allow selection of the proper shunt. The following case illustrates this point.

Case 2. A 23-year-old white man was hospitalized when massive splenomegaly was noted at a routine physical examination. A mass in his left upper abdomen had been found when he was less than 10 years of age. His growth and development had been normal, however, and no studies were performed until the age of 15, when a mild anemia was noted. The patient was asymptomatic, except for occasional epistaxis and a mild bleeding tendency. Upon entrance into the Service in 1956 a large spleen was noted, but no additional studies were made. Physical activity was not restricted. There was no history of liver disease, icterus, exposure to hepatotoxins, or manifestations of a moderately severe hemolytic process. None of his family was known to have bleeding tendencies or liver disease.

Physical examination showed the man to be well developed and well nourished. The abnormal physical findings included hepatomegaly of a mild degree with the liver palpable some 4 cm. below the right costal margin on deep inspiration, the organ being firm and nontender. The spleen was massively enlarged, being palpable in the left pelvis, firm, and nontender. Palmar erythema, spider angiomata, telangiectasia, icterus, and increased capillary fragility were absent.

Laboratory examinations revealed a hemoglobin of 8.1 Gm. per 100 ml. The white blood cell count was 3,050 per cu. mm., with 62 per cent polymorphonuclear and 26 per cent lymphocytes. The platelets were also diminished to an average of 70,000 to 100,000 per cu. mm. A bone marrow aspiration revealed general hyperplasia but no other abnormalities. The prothrombin time was 40 per cent of normal, and there was a marked deficiency of factor V. Liver function studies demonstrated bromsulfalein retention of 7 per cent in 45 minutes, total serum bilirubin of 0.8 mg. per 100 ml., with 0.2 mg. being direct reacting, thymol turbidity 1 unit, cephalin flocculation 3 plus in 24 hours, an alkaline phosphatase of 3.3 SJR units, total serum protein of 7.8 Gm. per 100 ml., of which 4.4 Gm. was albumin, a total cholesterol of 90 mg. per 100 ml., with 82 mg. being esters, and total serum lipids of 450 mg. per 100 ml. Stools repeatedly demonstrated 4 plus guaiac reactions for occult blood.

During the patient's hospital stay melena was noted. Esophagoscopy revealed bleeding esophageal varices of moderate size. After treatment with esophageal tamponade, and following the cessation of hemorrhage, percutaneous splenoportography was performed. Prior to this procedure a diagnosis of juvenile cirrhosis was entertained because of the hepatomegaly, factor V deficiency, and minimal abnormalities in the hepatic tests. Splenic pulp pressures were elevated to 380 mm. of saline. Roentgenograms demonstrated a massive cavernous transformation of the portal vein with large collaterals made up by the right gastroepiploic and other neighboring veins (figure 3). Following splenoportography the patient underwent laparotomy, and the findings were confirmed. A splenectomy with splenorenal venous anastomosis was performed. The portal vein pressure dropped from 380 to 230 mm. of saline. The patient's convalescence was not remarkable. The pancytopenia has now disappeared, and the esophageal varices have diminished markedly in size. He was returned to duty.

Percutaneous splenoportography in this case delineated the actual site of obstruction of the portal venous system and proved the splenic vein to be large and a splenorenal shunt feasible. The thin walls, tortuous course, and frequent presence of intraluminal thrombi make the cavernous collaterals unsuitable for use in the construction of a portacaval shunt.

3. *Evaluation of the efficiency of the surgical shunt in reducing portal hypertension.* Occasionally these shunts, especially the splenorenal type, will fail to function properly. Either the veins making up the shunt are of insufficient caliber to allow complete normalization of the portal venous pressure, or a thrombus develops at the anastomotic site, permitting the return of portal hypertension and its sequelae. Because these complications may be amenable to surgical correction, it is sometimes important to repeat splenoportography in the postoperative patient, particularly if there is progression of the liver disease or if gastrointestinal hemorrhage occurs. The following case illustrates the use of splenoportography in the evaluation of a patient who bled repeatedly after a portacaval shunt had been performed.

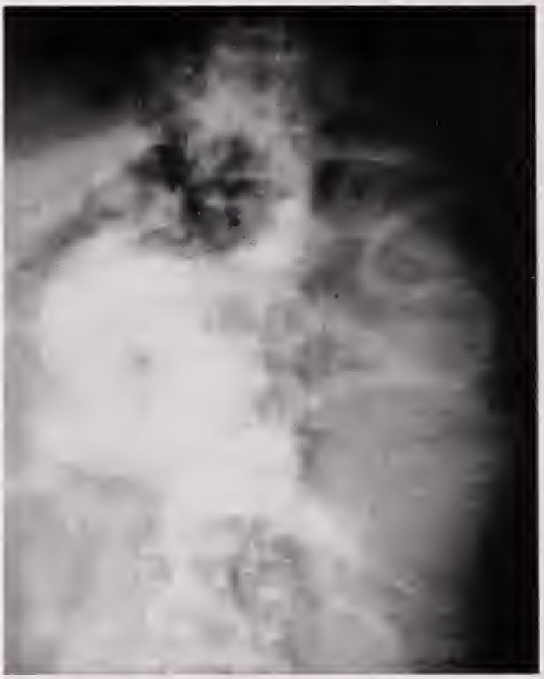


FIG. 3. Case 2. Note the large, tortuous right gastro-epiploic vein (upper right), retrograde filling of the inferior mesenteric vein (lower left), and the massive, tortuous, dilated, cavernous portal vein (mid-left).

Case 3. A 41-year-old white woman noted the onset of anorexia and malaise in November 1956, 2 months after a tooth extraction. At another hospital, in January 1957, she demonstrated a large, firm, tender liver, mild icterus, and spider angiomata. Laboratory examinations at that time showed a hemoglobin of 8.8 Gm. per 100 ml., bromsulfalein retention of 45 per cent in 45 minutes, a total serum bilirubin of 9.7 mg. per 100 ml., and a serum albumin of 3.0 Gm. per 100 ml. A liver biopsy revealed predominant fatty infiltration with some minimal fibrosis but little cellular damage. During that hospitalization ascites occurred, requiring prolonged vigorous therapy with a low-sodium diet, diuretics, salt-poor human albumin infusions, and paracentesis on 2 occasions. The anemia responded to oral iron therapy. Nine months after admission the patient was returned home considerably improved. Five months later, in February 1958, the patient was admitted to Walter Reed Army Hospital following 10 days of melena.

The past history was essentially negative. Specifically there was no history of past liver disease, icterus, excessive alcohol intake, or exposure to hepatotoxins.

Physical examination revealed severe pallor, mild icterus, multiple spider angiomata, a firm, nontender liver enlarged to 8 cm. below the right costal margin, and a readily palpable spleen. Initial laboratory examinations demonstrated a hemoglobin of 6.0 Gm. per 100 ml., serum albumin of 2.6 Gm. per 100 ml., cephalin-cholesterol flocculation of 3 plus, bromsulfalein retention of 46 per cent in 45 minutes, and a total serum bilirubin of 3.6 mg. per 100 ml.

Esophagoscopy was performed, large bleeding esophageal varices being observed. The hemorrhage was eventually controlled by use of the Sengstaken-Blakemore tube and multiple transfusions. A liver biopsy now revealed a cirrhotic pattern, presumably of postnecrotic type. Percutaneous splenoportography was performed, revealing a small portal and splenic vein but numerous collaterals filling predominantly from the splenic vein. The splenic pulp pressure was elevated to 460 mm. of saline. A portacaval shunt was performed. Because of the small caliber of the portal vein a large shunt could not be constructed, and the pressure dropped only from 420 to 350 mm. of saline.

Postoperatively the patient did poorly. Ascites recurred and was followed by massive hemorrhage from esophageal varices, and multiple transfusions and the use of the Sengstaken-Blakemore tube were required. During the next 6 months 3 additional episodes of hemorrhage required hospitalization and treatment. Esophagoscopy showed moderate-sized esophageal varices, and, although the ascites and jaundice disappeared, the liver remained large and the liver tests were severely deranged.

Seven months following surgery splenoportography was repeated. Intrasplenic pressure was measured as 280 mm. of saline; the venograms failed to demonstrate the portacaval anastomotic site or the inferior vena cava (figure 4). No new collaterals were seen, nor were any of the vessels more dilated than in the previous study. On medical management, the patient is showing gradual improvement.

We have no explanation for the failure of this patient's portal and splenic vein to dilate in response to portal hypertension. The small diameter (7 mm.) of the portal vein did not permit complete decompression of the portal hypertension when the portacaval shunt was constructed. The pressure measurements 7 months after the operation suggest that collateral channels may be opening and further reducing the degree of portal hypertension. The roentgenogram does not show further dilatation of the splenic veins or other collaterals, as might occur if the anastomosis between the portal vein and inferior vena cava had become occluded. Failure to demonstrate the anastomotic site is believed to be due to the small caliber of the vein feeding contrast material to it and rapid emptying of that portion of the portal vein nearest the shunt. These observations have encouraged us to delay the application of further surgical measures.

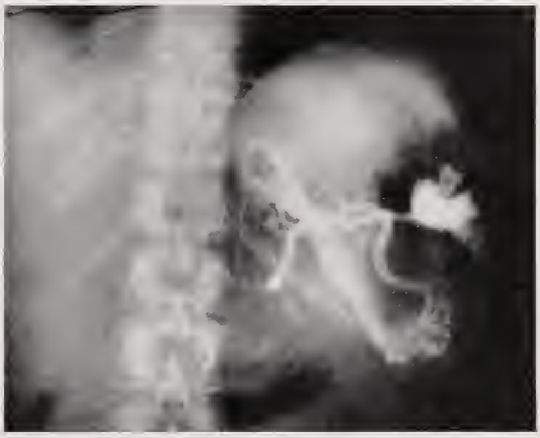


FIG. 4. Case 3. Multiple venous collaterals in the splenic region; normal size and apparent obstruction of splenic vein.

ADDITIONAL INDICATIONS FOR PERCUTANEOUS SPLENOPORTOGRAPHY

Other indications for, and values of this procedure have been suggested by other authors and will be briefly discussed.

1. *Hepatic tumors.* Sherlock,[18] Steinbach et al,[21] Bierman et al,[22] and Rigler et al[23] have emphasized that various space-occupying intrahepatic masses such as abscesses, metastases, hepatomas, and cysts may be visualized as an area of decreased radiodensity due to non-filling of this area. Our experience with this had been limited and unsuccessful to date.

2. *Obscure splenomegaly and/or ascites.* Splenomegaly may occur from many causes not associated with portal hypertension. The measurement of the splenic pulp pressure and visualization of the portal venous system are

frequently helpful in the differential diagnosis. Ascites, likewise, is not necessarily associated with portal hypertension, since hepatic vein obstruction appears to be necessary for its occurrence. Also, experimentally one cannot produce ascites by occluding the portal vein. At the same time ascites is frequently associated with portal hypertension. Recently McDermott[24] has introduced the use of a double portacaval shunt so that the proximal portal segment acts as a pressure release for the associated hepatic venule hypertension reportedly present in cirrhosis. Thus, percutaneous splenoportography should be useful in differentiating the hepatic causes of ascites with associated portal hypertension from the vascular causes, due to thromboses or occlusion (by tumor) of the hepatic veins.

3. *Congenital portal venous system anomalies.* Dogliotti and Abeatici[25] list stenosis, angiomatosis of the lesser omentum, and Cruveilhier-Baumgarten syndrome as the 3 main congenital anomalies of the portal venous system. Snavely and Breakell,[26] in presenting their case of multiple portal vein strictures of congenital origin, stressed the rarity of these anomalies as compared to acquired causes of portal hypertension and could obtain very few cases from the literature. Thus, although portal vein strictures or persistent patency of the umbilical vein secondary to neonatal portal hypertension are rare anomalies, they can be readily diagnosed preoperatively only by percutaneous splenoportography.

4. *Obscure upper gastrointestinal hemorrhage.* Turner et al[18] stress this use of percutaneous splenoportography as a semi-emergency procedure for the patient who comes into the hospital with upper gastrointestinal hemorrhage. The demonstration of esophageal varices by this procedure, however, does not rule out a bleeding peptic ulcer, since cirrhotic patients have an extremely high incidence of gastroduodenal ulcers.[27] We prefer the direct visualization of bleeding esophageal varices by esophagoscopy.

5. *Constrictive pericarditis.* Gilsanz and associates[28] recently noted an interesting feature related specifically to constrictive pericarditis. They performed spleen-lung circulation times with ether and compared them with the standard arm-lung circulation times. Following this they employed percutaneous splenoportography in normal persons, patients with congestive heart failure, patients with nonspecific pericarditis and mild tamponade, and patients with constrictive pericarditis. In normal persons, patients with congestive failure and those with pericarditis and tamponade the arm-lung and spleen-lung times were equal, but in patients with constrictive pericarditis the spleen-lung time was markedly prolonged, much more than the arm-lung time. In addition, the patients with constrictive pericarditis had portal hypertension with splenic pulp pressures of 400 and 500 mm. of saline. The venograms, while showing some decreased filling in the other cardiac patients, showed marked impairment of filling of the intrahepatic portal venous system as though there were an obstruction at the liver capsule. These abnormal findings disappeared following pericardiectomy in both patients. These interesting observations bear further study.

SUMMARY

The results of percutaneous splenoportography at Walter Reed Army Hospital have been reported. The procedure was performed 40 times in 32 patients over a 15-month period. Successful venograms were obtained in 81 per cent and accurate splenic pulp pressures in 88 per cent of the patients. The procedure was informative 90 per cent of the time and in all but 2 patients. Significant intraperitoneal hemorrhage occurred twice, once requiring transfusion, but both times spontaneously ceasing.

The principal indications for this procedure are the detection and measurement of portal hypertension, preoperative selection of the proper venous shunt procedure, and postoperative evaluation of the patency and efficiency of

(*Continued on page 241*)

GASTRIC CARCINOMA
A Study of 179 Cases

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THE RELATIVELY poor results obtained in the treatment of gastric carcinoma have been extensively described in the literature.[1-4] Yet critical appraisal of multiple reports indicates wide discrepancies in the biologic reaction of this malignant lesion to therapy. Improvements in anesthesia and surgical technics, the introduction of new antimicrobial agents, and increased knowledge of fluid balance have resulted in decreased mortality during and following surgery as well as improved survival rates.[5, 6] The tendency to translate these improved survival data among certain selected patients with resectable lesions into cure rates for the disease as a whole is a dangerous one and frequently projects a false picture.

The plea of both surgeons and internists has been the need for minimal delay between the onset of symptoms and the diagnosis and treatment of gastric carcinoma in order to effect better salvage. If this premise is valid it would seem that the United States Army, wherein socioeconomic factors and patient orientation permit optimum diagnostic study and medical care, would offer the ideal situation for its substantiation.

For the purpose of this study 179 patients with proven gastric malignant lesions were selected from the records of the Walter Reed Army Medical Center. These patients were divided into 2 groups. The first comprised 107 cases taken from the WRAMC autopsy files and covered the period 1924–1949. Relatively complete records were available as well as reviewable histopathologic proof of gastric cancer. Seventy-two patients made up the second group and encompassed the years 1950–1957. Total follow-up was 94.9 per cent, 100 per cent in the first sample and 87.5 per cent in the second.

These patients were managed in the currently accepted manner: diagnosis through clinical, radiologic and endoscopic study; laparotomy unless the general condition of the patient or the detection of distant metastases precluded hope of successful surgery; resection for cure when it was thought clinically feasible; and follow-up through outpatient visits or by correspondence.

RESULTS

Age, race, and sex. The 179 patients studied ranged in age from 19 years as the youngest to 83 years as the oldest. Forty-six patients (42.0 per cent) from Group I and 28 (38.8 per cent) from Group II were below the age of 50. However, 33 individuals (30.8 per cent) in the first sample and 19 (26.6 per cent) in the second fell chronologically into the sixth decade (table 1). Eleven females were included in Group I and 15 in Group II. There was 1 Negro female in each grouping; the others were Caucasian. Seventeen examples of gastric carcinoma were noted among nonwhites during the earlier period. Seven of these were Negroes, the remainder of unspecified racial origin, and 79 Caucasian. Five Negro and 52 white men were encountered in Group II (table 2). The racial distribution was considered to be roughly analogous to the hospital census and without any other significance.

Symptoms and physical findings. The 4 most common symptoms in descending frequency in

TABLE 1

Age Distribution

Group I 1924–1949 107 Cases		Group II 1950–1957 72 Cases	
Age	No. Patients	Age	No. Patients
10–19	1	20–29	4
20–29	6	30–39	10
30–39	18	40–49	14
40–49	21	50–59	19
50–59	33	60–69	15
60–69	19	70–79	7
70–79	8	80–89	3
80–89	1		
Youngest patient—19 yrs. Oldest patient —83 yrs.		Youngest patient—22 yrs. Oldest patient —83 yrs.	

both groups were pain, weight loss, anorexia and vomiting. Nausea and bloating or belching occurred in 18.7 per cent and 21.5 per cent respectively in the first group and 48.6 per cent each in the second. In both samples there were infrequent complaints of melena, hematemesis and ascites. Dysphagia occurred in 3 patients from the earlier period and 1 from the second. Pain was usually localized to the epigastrium, but there was occasional involvement of other portions of the abdomen and lower chest.

TABLE 2

Race and Sex Distribution

Group I 107 Cases		Group II 72 Cases	
Male:		Male:	
Caucasian	79	Caucasian	52
Nonwhite	17*	Negro	5
Female:		Female:	
Caucasian	10	Caucasian	14
Negro	1	Negro	1

* 7 Negro males; 10 nonwhite males of unspecified racial origin.

The duration of symptoms before diagnosis and treatment is important to the conclusions that must ultimately be drawn from the patient data incorporated in this report. Duration of complaints ranged from 7 days to 30 years. In Group I 15 patients (14.0 per cent) and 5 patients (6.9 per cent) in Group II received treatment less than 1 month after the onset of symptoms. One patient in the latter sample underwent surgery within a 7-day period after having first experienced abdominal pain. Only 19.6 per cent of the patients in the first group and 26.3 per cent in the second had symptoms for more than 12 months before the institution of therapy (table 3).

TABLE 3

Duration of Symptoms

Group I 107 Cases		Group II 72 Cases	
Less than 1 month	15	Less than 1 month	5
1–3 months	34	1–3 months	22
4–6 months	18	4–6 months	15
7–12 months	19	7–12 months	11
More than 12 months	21	More than 12 months	19
Longest duration—14 years		Shortest duration—7 days Longest duration—30 years	

Physical abnormalities demonstrated during the initially definitive consultation were found in less than 50 per cent of the patients in both groups. Some of these findings, i.e., adenopathy and hepatomegaly, assumed their proper place in the clinical picture only in retrospect. A palpable abdominal mass was demonstrated in 29.9 per cent of the patients in Group I and in 23.7 per cent of those from Group II. Jaundice and clinical evidence of anemia were infrequent. The associated diseases in both groups were varied, including pernicious anemia, duodenal ulcer, carcinoma of the lung, gastric ulcer, cirrhosis, tuberculosis, and cardiovascular disease. There is no apparent conclusion to be drawn from these latter data.

Laboratory data. Anemia was found on routine hematologic evaluation in 23.3 per cent of the earlier sample and 36.1 per cent in the later group. These findings are similar to those previously reported.[7] Although melena was uncommon, stool guaiac examination was positive in approximately 50 per cent of the cases from both groups. Cytologic examination of gastric aspirate was positive once in Group I and confirmatory 5 out of 8 times in Group II. Microscopic examination of ascitic fluid obtained by paracentesis was considered diagnostic of gastric malignancy in 1 patient from the 1924–1949 period. This individual subsequently died of peritonitis, incurred as the result of abdominal tapping.

Endoscopy. Only twice was the diagnosis of gastric carcinoma made or confirmed by gastroscopy in Group I. However, endoscopic examination was a valuable adjunct to the clinical and radiographic study of the 72 patients in Group II. Esophagoscopy, gastroscopy or peritoneoscopy were employed in 40.2 per cent of the patients in the 1950–1957 period and were positive in 75.8 per cent of the occasions when these procedures were utilized. The examinations were uniformly benign, with no deleterious effects to the patients so studied.

Radiography. Ninety-two patients from Group I and all from Group II were subjected to upper gastrointestinal X-ray examination. The initial study was negative on 3 occasions in the earlier sample and 23 times (31.9 per cent) in the later. Ultimately, it was positive in all 164 patients.

TABLE 4

Operations Performed

Operation	Group I 107 Cases	Group II 72 Cases
Subtotal gastric resection	22	43
+ Splenectomy and omentumectomy	None	3
+ Partial pancreatectomy	1	1
Gastroenterostomy	14	8
Laparotomy with biopsy	25	8
Scalene biopsy	3	1
Vagotomy	None	1
Esophagogastrectomy	2	1
Total gastrectomy	1	None
No surgery	39	6

Surgery and postoperative survival. The operative procedures performed are described in table 4. Thirty-nine patients in Group I were not explored either because of the clinical impression of inoperability or because of the patient's unwillingness. The latter occurred in 2 instances. Diagnosis of gastric malignant disease was ultimately made in all patients by either peripheral node biopsy or autopsy. Sixty-eight patients from Group I were subjected to surgery. Seven of these individuals died in the immediate postoperative period.

Sixty-six of the 72 patients in Group II were surgically treated. Although none of these patients died in the immediate postoperative period, four failed to survive for longer than a month after surgery. Subtotal resections were performed in 21.5 per cent of the operated individuals in the 1924–1949 period and in 47 (65 per cent) of those from the 1950–1957 sample. This represents a substantial increase in the frequency with which this procedure was used in the latter group. Survival of patients from both groups is described in table 5.

TABLE 5

Survival Postoperatively in Months

Operation	Group I 107 Cases	Group II* 72 Cases
Subtotal gastric resection	6.5	15
+ Splenectomy and omentumectomy	—	12
+ Partial pancreatectomy	1	1
Gastroenterostomy	6.5	9
Laparotomy with biopsy	2.9	5
Vagotomy	—	4
Esophagogastrectomy	0.0	7
Total gastrectomy	0.0	—

* The present clinical status of 9 patients from Group II is unknown. However, 2 of these are known to have been alive 2 and 4 years respectively after subtotal resection.

DISCUSSION

Care of the patient with gastric carcinoma is a depressing task, frequently tending to produce a nihilistic point of view on the part of some clinicians. At present only rarely is one able to negate this pessimistic outlook.

The attitude which is frequently verbalized by many clinicians implies that if detection is accomplished early cure will be attainable. However, our study seemingly refutes the concept that intensive investigation after the earliest appearance of symptoms is capable of producing substantial patient salvage. Our data would suggest that the time between the onset of symptoms, diagnostic study, and treatment of carcinoma of the stomach do not bear a positive relationship to improved chances of survival and possible cure. Undue emphasis on the time element relegates the basic characteristics of the disease to a position of secondary importance. We have been especially impressed by the fact that those individuals with longstanding symptoms maintained a "balance" with their lesions and represented in large part the group having the longest survival. Two patients from the groups incorporated in this study tend to substantiate this attitude. An 81-year-old white man, experiencing intermittent but well-defined abdominal symptoms over a period of 30 years, lived for 30 months after partial gastrectomy. Conversely, another 81-year-old white man, receiving treatment within 3 months after the onset of symptoms, survived for less than 8 months following subtotal gastric resection.

Increased longevity was also noted in those individuals in whom the gross appearance of their tumors conformed to groups I and II of Borrmann's classification. The contrary was also apparently true; i.e., those individuals whose carcinomata were of grade III or IV lived shorter periods. A 63-year-old white man with a palpable mass known to have been present for 6 years was subjected to gastroenterostomy. Four years after the initial surgery he was again explored because of complaints felt to be secondary to postoperative adhesions. At that time seemingly little increase in tumor size had occurred. He lived 2 years beyond the time of this second procedure, ultimately dying of a cerebral vascular accident 12 years after the initial appearance of the epigastric mass. Postmortem examination revealed carcinomatous infiltration in the distal half of the stomach.

Finally, it is our impression that younger individuals with gastric carcinoma have a shorter life expectancy than those patients in the older age groups.

Early study, effected by the means available to us at present, viz., radiographic, cytologic, endoscopic and physical examinations, will not enable diagnostic efficacy to be substantially improved over that which now exists. Newer technics than those currently employed must be developed in order to enhance the survival of patients with gastric carcinoma. Photofluorometric technics have been employed in asymptomatic patients, but the discovery rate is so small that the economic aspects of this type of detection preclude its widespread use.[8, 9] However, in those patients with potential precursors of gastric carcinoma, i.e., achlorhydria,[10] pernicious anemia,[11, 12] atrophic gastritis, or a strong familial history of gastric carcinoma, routine screening has been extremely productive. The possibility of serologic technics being applied to the diagnosis of cancer, particularly gastric, is feasible, but practical applications are not now available.

Reported improvements in 5-year survivals, attributed specifically to more radical resection, are unlikely to be enhanced beyond peak values of approximately 25 per cent.[6] Nevertheless, at present surgery remains the only chance of prolonging survival.

SUMMARY

In an experience with a total of 179 cases of gastric carcinoma the duration of symptoms prior to detection of the gastric lesion did not favorably influence operability or resectability rates. Statistically, analysis of data from both samples has conformed to other reported series. It was noted that the short duration of symptoms and radical resection did not favorably affect survival.

N. B. We wish to thank Mrs. G. B. Hamilton for her assistance in the preparation of this manuscript.

(*Continued on page 242*)

WALDENSTRÖM'S MACROGLOBULINEMIA

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IN 1944 Waldenström[1] described a rare chronic disorder characterized by an increased sedimentation rate, elevated serum globulins and serum protein of a high molecular weight. In the intervening 15 years less than 60 cases of Waldenström's macroglobulinemia have been reported, the majority of which have been in Continental Europe. Since 1954 the condition has been noted with increasing frequency in the Western Hemisphere.[1–26]

The condition is most commonly seen in elderly Caucasian men with manifestations of a hemorrhagic disorder. Anemia, generalized lymphadenopathy, and hepatosplenomegaly were present in many of the reported cases but are not essential to the diagnosis. This is demonstrated in our patient.

The therapeutic approach to this disease has been varied and for the most part unsuccessful. Alkylating agents, antimetabolites, steroid hormones and radioactive phosphorus have been used with either no improvement or only questionable and temporary benefit.[14, 21, 22, 25, 26]

The rarity of this disease, particularly in young Negroes, induced us to report this case. In addition, there were unusual changes in the solubility of the macroglobulin with a modification in the qualitative ultracentrifuge findings following therapy. This is the first reported use of radioactive gold in the treatment of primary macroglobulinemia.

REPORT OF CASE

A 42-year-old Negro Army sergeant was first admitted to Walter Reed Army Hospital on February 14, 1957 from overseas because of recurrent bleeding from his mucous membranes. The patient was treated with penicillin in 1949 because of a positive test for syphilis. He had been treated with sulfonamide drugs or penicillin on 5 separate occasions for gonorrhea between 1941 and 1950. He received 6 days of therapy with penicillin and streptomycin in 1953 for a cellulitis of the lower extremity. His family history was not revealing.

In February 1956 the patient developed persistent frontal headaches with recurrent episodes of epistaxis. In May his gums became soft, pulpy and friable and bled easily. He noted frequency of urination and nocturia in July. At this time he developed exertional dyspnea.

In September the bleeding from his gums became severe and he was hospitalized at an overseas Army installation. At the time of that admission numerous small hemorrhages were seen scattered throughout both retinae. A few small, whitish exudates were also noted. The retinal veins were dilated and had an ampullaceous or "link sausage" appearance. The gums appeared pale and boggy, and crusted blood was present in both nostrils.

Laboratory work revealed hyperglobulinemia with a mild anemia. Microscopic examination of aspirated bone marrow showed the presence of many bare nuclei. Gross hematuria was demonstrated on one occasion and microscopic hematuria was seen several times during this hospitalization. Difficulty was encountered in obtaining blood samples at this time, as well as in later hospitalizations, because of the jellification of the specimen. This problem was partially circumvented by warming the syringe and tubes and allowing a clot to form in a water bath at 38°C.

In late September the patient first experienced painful, cold hands with acrocyanosis following even minor exposure to cold. His hands remained dry during these episodes. Bleeding recurred despite attempts to control it with vitamins C and K, calcium, rutin, and local cauterization. He was given ferrous sulfate when his hemoglobin reached 5.7 Gm. per cent with a good response.

The patient was transferred to Walter Reed Army Hospital. Physical examination again revealed the sausage-link deformities of the retinal veins, with scattered hemorrhages and exudates. He had no hepatosplenomegaly or demonstrable adenopathy. His gums were hyperemic and slightly swollen. There were no other pertinent physical findings.

The erythrocytic sedimentation rate was 50 mm. (Westergren method). The hemoglobin was 11.0 Gm.*; the hematocrit, 36 per cent; the red blood cell count, 3,730,000 per cu.mm.; the white blood cell count, 4,500 per cu.mm., with a differential of 48 per cent neutrophils, 36 per cent lymphocytes, 15 per cent monocytes, and 2 per cent eosinophils. The reticulocyte count was 1 per cent. The thrombocyte count was 176,000 per cu.mm. Smear of the peripheral blood revealed rouleau with a few target cells. The urinalysis was normal with a specific gravity of 1.021. Bence Jones protein was not found. The serum iron was 103 micrograms*, with a total serum iron-binding capacity of 379 micrograms* (normal values: serum iron, 105 ± 33 micrograms per cent; total serum iron-binding capacity, 360 ± 35 micrograms*). The blood urea was 17 mg.*; calcium, 10.4 mg.*; phosphorus, 3.6 mg.*; and cholesterol, 143 mg.* There was less than 1 per cent bromsulfalein retention in 45 minutes. The total serum bilirubin was 0.4 mg.* of which 0.1 mg.* was direct. The cephalin flocculation was 3 plus, with a thymol turbidity of 8 units and an alkaline phosphatase of 11.6 SJR units. The total serum protein was 11.1 Gm.,* with 2.2 Gm.* albumin and 8.9 Gm.* globulin. Paper electrophoresis of the patient's serum (barbital buffer, pH 8.6, ionic strength 0.1) gave the following results: albumin, 28 per cent; alpha$_1$ globulin, 2 per cent; alpha$_2$ globulin, 5 per cent; beta globulin, 5.5 per cent; and gamma globulin, 59.5 per cent (normal values: albumin, 52.9 ± 2.0 per cent; alpha$_1$ globulin, 6.4 ± 1.5 per cent; alpha$_2$ globulin, 10.5 ± 2.4 per cent; beta globulin, 12.8 ± 2.2 per cent; and gamma globulin, 16.6 ± 2.8 per cent). Cardiolipin complement fixation tests for syphilis were negative in serum and spinal fluid. The Kahn test for syphilis was negative. The Treponema immobilization test was negative.

Coagulation studies gave the following results: Rumpel-Leede test, negative; coagulation time (Lee-White method), 7½ and 10 minutes in glass and 30 and 50 minutes in silicone; prothrombin time, 13.0 seconds (control 13.2 seconds); prothrombin consumption test, 40 seconds.

A sternal bone marrow aspiration revealed normal maturation of the myeloid elements, with a slight erythroid hyperplasia. Approximately 33 per cent of the cells were lymphocytes. Many of these had small nuclei and no visible cytoplasm. There was a mild increase in mature plasma cells. No "grape cells" were seen.

A roentgenogram of the chest was normal, with a second right anterior bifid rib. Radiographic studies of the gallbladder and gastrointestinal tract were normal, except for an irregular jejunal mucosal pattern with slight dilatation of the ileum. A radiographic bone survey disclosed no lesions or notable osteoporosis.

Radioactive chromium labeling of the patient's red blood cells revealed a red blood cell mass of 33.5 ml. per Kg., with a total blood volume of 91.9 ml. per kilogram (normal values: RBC mass, 25–35 ml. per Kg.; total blood volume, 60–80 ml. per Kg.). There was a chromium^{51} red blood cell half-life of 23 days, which is slightly below the normal for this laboratory (25–35 days), and was attributed to blood loss during the procedure.

Ultracentrifugation of the patient's serum in barbital buffer, pH 8.6, demonstrated globulin peaks with sedimentation constants of 7 S, 12 S, 19 S, and 28 S. In an acid pH 4.2 buffer the macroglobulin peaks were no longer present, only a tall, sharp 7 S peak remained with a small 19 S peak, such as is found in normal serum. When the protein was returned to an alkaline buffer the macroglobulin peaks reappeared.†

Thirty mg. of nitrogen mustard was administered intravenously between March 26 and 28, 1957. A mild leukopenia and thrombocytopenia developed and was maximal 3 weeks after treatment, with a subsequent return to normal values. There was a decrease in the total protein to 6.2 Gm. per cent in May. There was no change in the serum ultracentrifuge pattern.

The patient had improvement in all of his symptoms. He continued to have occasional mild episodes of epistaxis with boggy, oozing gums. He was discharged from the hospital on September 9, 1957 and returned to limited work.

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* Per 100 ml.

† Ultracentrifugation separates serum proteins of different molecular weights. In normal serum 3 distinct components are usually demonstrable: a large peak with a sedimentation constant of 4 Svedberg units which is chiefly albumin; a smaller component with a sedimentation constant of 7 S, which are the normal globulins, and a very small peak with a sedimentation constant of 15 S or greater, which is a "normal macroglobulin" and constitutes less than 3 per cent of the demonstrable serum proteins. Other components are abnormal and are considered macroglobulins if their sedimentation constant is 15 S or greater. The determinations are usually performed in a barbital buffer, pH 8.6.

On December 4, 1957 the patient was readmitted to the Hospital with persistent severe epistaxis of 3 days' duration. During the following month the patient had repeated spontaneous nosebleeds and bleeding from the gums. Mild exposure to cold again produced cool acrocyanotic extremities which were painful to the patient. His gums were boggy. There was no lymphadenopathy or hepatosplenomegaly. There was a white blood cell count of 7,850 per cu.mm., with 65 per cent polymorphonuclears 28 per cent lymphocytes, and 6 per cent monocytes. Serum protein was 10.8 Gm.*, of which 45 per cent was gamma globulin. Alkaline phosphatase was 25 SJR units.

On January 10, 1958 the patient received 25 millicuries of Au^{198} intravenously. There was a gradual fall in the white blood cell count and platelet count. On February 8 the leukocytes reached a low level of 1,150 per cu. mm., with 24 per cent neutrophils and 72 per cent lymphocytes. The platelet count was 6,500. These values returned to normal by February 28. Transfusion was required because of continued epistaxis. The patient's epistaxis and bleeding from his gums gradually improved and became only a minor inconvenience during the remainder of his hospitalization. The patient remained febrile. On February 15 he developed firm, nontender, circumscribed, subcutaneous masses. Blood cultures were repeatedly negative. The patient was maintained on 1.2 million units of procaine penicillin and 1 Gm. of streptomycin daily. The subcutaneous masses persisted but decreased in size and became fluctuant. Aspiration on March 21 revealed hemolytic *Staphylococcus aureus*. The masses were incised and drained. Two days later the patient developed septic arthritis of the right knee, which was treated with traction and repeated aspiration. The organism was sensitive in vitro to penicillin, and the dose was increased to 4,000,000 units daily, with 2 Gm. of chloromycetin per day.

The patient became afebrile in April 1958 and subsequent cultures were negative. Antibiotics were discontinued on May 7, 1958. He required physical therapy for approximately 2 months to achieve a return in function of his right knee.

In the months following the administration of Au^{198} there was a change in the serum ultracentrifuge pattern. There was an increase in the globulin 7 S peak with a decrease in size of the albumin peak (4 S). In addition, there were 5 rather than 3 macroglobulin fractions.

During the latter portion of his hospitalization the patient had a total protein of 9.0 Gm.* with 36 per cent gamma globulin. His alkaline phosphatase and thymol turbidity remained elevated. His serum contained less than 1 unit of properdin per ml. (normal 4 to 8 units per ml.). There was a significantly low level of complement in the patient's serum (63 units with a normal range of 100–200 units).[27] The decrease in properdin and complement persisted until the time of discharge.

The patient again noted an exacerbation of his disease with the first return of cold weather. This was characterized by an increase in his bleeding tendency and a recurrence of his pseudo-Raynaud's phenomenon. At the time of discharge from the Hospital in October 1958 the patient was advised to live in a tropical or semitropical climate.

DISCUSSION

Waldenström's macroglobulinemia usually occurs in elderly males, but women and younger persons have occasionally been reported.[20, 24, 25] The patient's initial symptoms are frequently vague, consisting of weakness, weight loss, exertional dyspnea, and lassitude. Hemorrhagic tendencies consisting of epistaxis, bleeding gums, purpura, and retinal hemorrhages with subsequent anemia are usually the complaints which alert the physician to the existence of a serious underlying condition. Thrombocytopenia, a deficiency of accelerator globulin, an abnormal prothrombin time, and a defect in fibrin formation have been demonstrated in some patients exhibiting this condition.[14, 21, 24]

The characteristic findings of this condition are an elevated sedimentation rate, hyperglobulinemia, and proteins of high molecular weight. The condition can readily be confused with purpura hyperglobulinemica which was also described by Waldenström and is not associated with macromolecules.[2] The demonstration of macroglobulins by ultracentrifuge studies is essential to the establishment of the diagnosis.

Lymphadenopathy and hepatosplenomegaly have been described in most of the reported cases and may make the differentiation from chronic lymphocytic leukemia difficult.[23] These findings are not essential to the diagnosis, as can be seen in the case of our patient.

Anemia is common and may be of varying severity. It is usually normocytic but may be microcytic and hypochromic if it is secondary to chronic blood loss with iron deficiency. Occasionally the anemia is hemolytic in nature.[20] Rouleau formation is commonly seen because of the high abnormal globulin in the patient's serum. Variations in the white blood cell count have been reported in different cases with nonspecific findings of leukocytosis, leukopenia, lymphocytosis, monocytosis, and eosinophilia.[16, 22] Thrombocytopenia is more frequent, and the prognosis is poor when this severe.

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* Per 100 ml.

The bone marrow may be normal.[2] More frequently there is an increase in the lymphoid or plasma cells. In our case the latter was seen with a large number of smudge cells. Mast cells and "grape cells" have been reported in several cases.[24] They were not found on study of repeated bone marrow aspirations from our patient.

The urine may contain Bence Jones protein.[11] The thymol turbidity test is usually elevated, as are other studies which measure abnormal globulins. In our patient there was a markedly elevated alkaline phosphatase throughout the entire period he was under observation. There were no bony lesions demonstrated, and studies of the gallbladder were normal.

The serum from a patient with this disorder frequently forms a white flocculent precipitate when placed in distilled water but not when placed in saline (Sia test) (figure 1). It is occasionally negative in patients who have been shown to have macroglobulinemia.[22] This was present in our patient at all times; however, the intensity of the reaction varied throughout his hospital course. Jellification of the patient's serum occurred at room temperature but was not a constant finding. When it is marked there is difficulty in obtaining adequate serum specimens from the patient. Pre-warming syringes and test tubes will circumvent this problem. This phenomenon presents difficulty in the typing and cross-matching of blood for transfusion.

The abnormal globulin usually migrates with the gamma globulin fraction. It may be seen as a beta globulin or migrate between the beta and gamma globulin fractions. Electrophoretic analysis of our patient's serum revealed the more commonly seen gamma component. The peak was broader and less peaked than is usually seen in multiple myeloma and in most of the previously reported cases of macroglobulinemia (figure 2).[25]

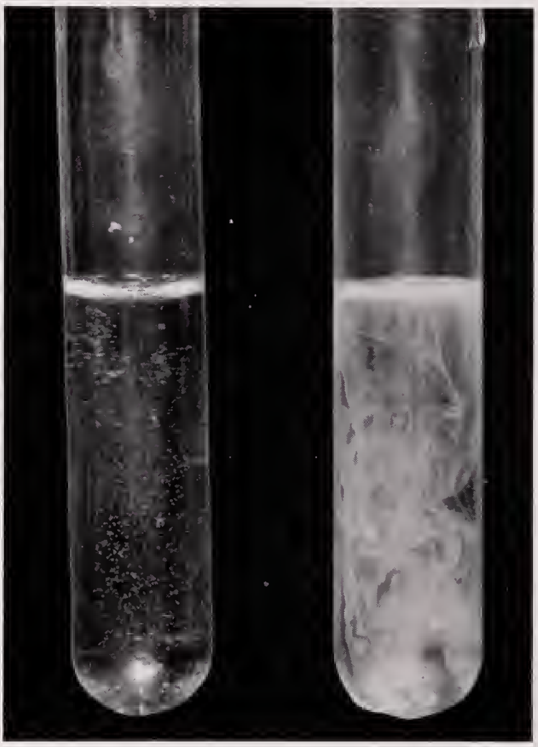

FIG. 1. The Sia Water Test is positive when a flocculent precipitate forms following the addition of the patient's serum to distilled water (right). There is no precipitate when serum is added to a solution of physiologic saline (left).

Ultracentrifugation studies are essential to establishing the diagnosis of macroglobulinemia. In normal serum 3 peaks are usually seen. The first peak is the smallest and represents a "normal macroglobulin." The sedimentation constant is 19 Svedberg units and has a molecular weight of approximately 1 million. Electrophoretically it consists of 2 proteins, 1 which migrates with the alpha globulin and the other with the gamma globulin. The second peak represents the bulk of the globulin (alpha, beta and gamma globulin) with a sedimentation constant of 7 S. They have a molecular weight of approximately 160,000. The third and slowest peak is the albumin with a sedimentation constant of 4 S and a molecular weight of approximately 68,000.[28]

The sedimentation constants of myeloma protein are usually 6 to 7 S, less often 9 to 9.5 S, though higher constants of 15 and 17 S have been reported.[29] In macroglobulinemia sedimentation constants are usually at least in the 19 to 20 S range. Lower sedimentation constants of 11 to 13 S have been described.[16, 19, 24] The latter cases probably represent a basically different disease state. Most authorities require at least 5 per cent of the serum protein to have a molecular weight of 15 S or greater in order to establish the diagnosis of macroglobulinemia.[20]

Our patient's serum initially had 3 macroglobulin peaks at 12 S, 19 S and 28 S in a barbital buffer at pH 8.6. When the serum was placed in a pH 4.2 buffer the macroglobulin peaks were no longer present. A tall, sharp 7 S peak and a small 19 S peak remained, which might represent the macroglobulin found in normal serum. When the protein was returned to an alkaline buffer the macroglobulin peaks reappeared. Following the administration of Au[198] a markedly different pattern was seen. There was much less albumin relative to the globulin, and there were 5 rather than 3 macroglobulin peaks (figure 3).

The macroglobulin consistently revealed a component in the electrophoretic globulin fraction which had an intensely positive PAS reac-

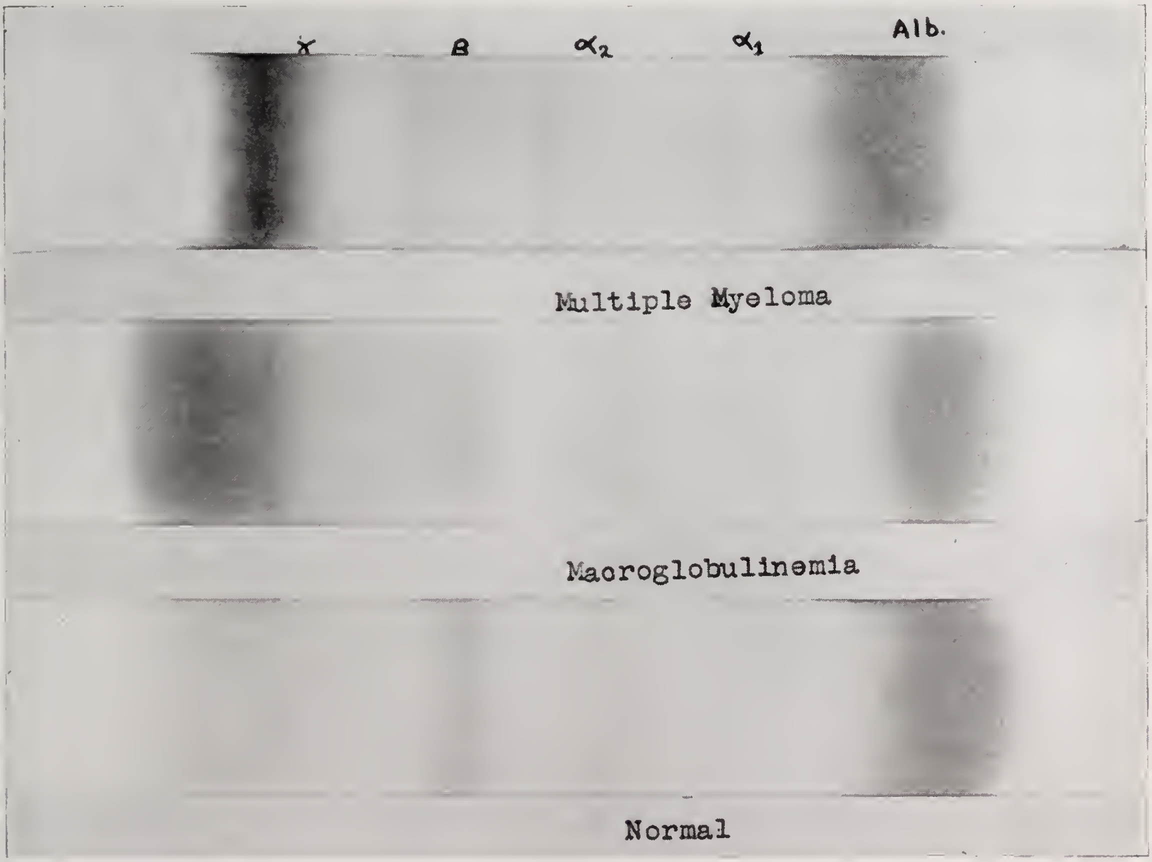

FIG. 2. Paper electrophoretic analysis of serum (barbital buffer, pH 8.6; $\mu = 0.1$) from our patient is compared with serum from a patient with myeloma and a normal control. The abnormal protein migrated with the gamma globulin fraction in both of the pathologic states. The abnormal peak is broader in this case of macroglobulinemia than in most of the previously reported cases and can thus be differentiated from the myeloma protein (see text).

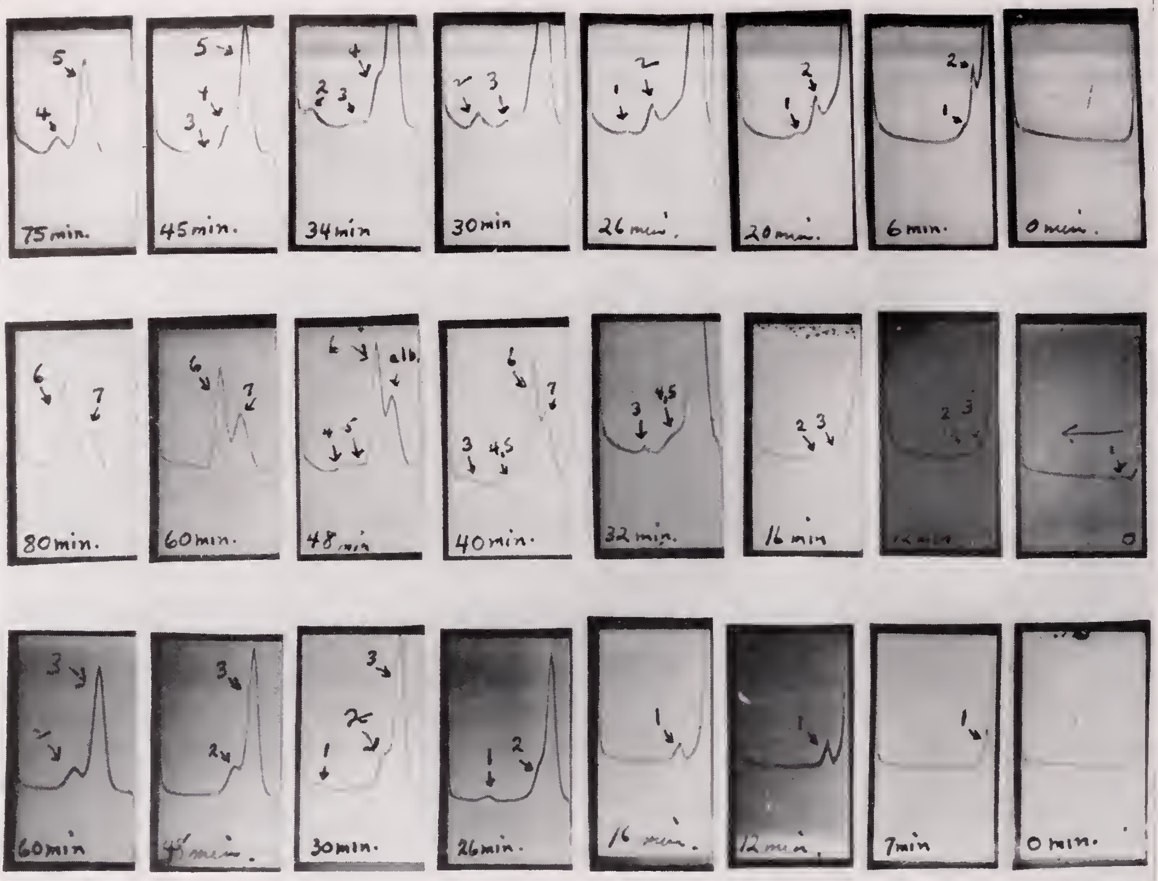

FIG. 3. Ultracentrifugal analyses of the patient's serum is illustrated above. Top row: Serum specimen obtained prior to therapy with radioactive Au^{198}. Analysis performed in barbital buffer pH 8.6. Three macroglobulin peaks (1, 2 and 3) are demonstrated with sedimentation constants of 28 S, 19 S and 12 S, respectively. Peaks 4 and 5 represent normal globulins (7 S) and albumin (4 S). Middle row: Serum specimen obtained several months after radioactive gold therapy. Analysis performed in barbital buffer pH 8.6. Five macroglobulin peaks are demonstrated (1–5). There is an increase in the 7 S peak (6) with a proportionate decrease in the 4 S albumin peak (7) when compared to the earlier analysis. Bottom row: Ultracentrifugation of the patient's serum performed at pH 4.2 revealed a normal-appearing analysis. The first peak (1) has a sedimentation constant of 19 S. The second and third peaks (2 and 3) are the 7 S and 4 S peaks.

tion and also stained for lipids. The lipids in the gamma globulin fraction were highly resistant to solvent unlike those in the alpha and beta fractions. These findings suggested the presence of a glycoprotein and a lipoprotein.

Habich and Hassig[30] sensitized rabbits with serum obtained from patients with Waldenström's macroglobulinemia. The antiserum precipitated serum of patients with this disease but not the serum of patients with a secondary macroglobulin. False-positive reactions are not reported. In cases in which the sedimentation constant is low, false-negative reactions are occasionally seen.

Biologically false-positive reactions for syphilis occur in this disease.[14, 24] The positive Kahn test in 1949 in our patient and the subsequently negative Treponema immobilization test would suggest this possibility. It is likewise possible that early treatment of an existing luetic infection would allow a reversion of the Treponema immobilization test and serology to negative.

The low properdin and complement values demonstrated in this patient were probably related to the radiation he received and are not a characteristic of the disease state.

Treatment of primary macroglobulinemia has been essentially ineffective. Transitory improvement has been reported following the use of nitrogen mustard, urethane, amidin 2834-37, cortisone and subsequent to splenectomy. Radioactive phosphorus^{32} and most of the above agents have been reported by other authors as being completely unsuccessful. In the case reported there was apparent clinical improvement following the administration of nitrogen mustard. It should be noted that this was coincident with the warmer months of the year, and there was an exacerbation with the return of winter weather. Au^{198} was administered to the patient in an attempt to produce a remission by selective radiation of his reticulo-endothelial system. This produced a severe pancytopenia which was accompanied by an alteration in proteins and an apparent improvement in his clinical status. Again this improvement was coincident with the occurrence of summer and the patient's clinical findings again became more pronounced with the return of the first cold weather. We do not believe that this therapy significantly altered this patient's basic disease.

Summary

A case of macroglobulinemia in a 42-year-old Negro is presented. Hemorrhagic manifestations without demonstrable coagulation defects were the presenting findings. There was no lymphadenopathy or hepatosplenomegaly. There was a moderate normocytic, normochromic anemia and an increase in lymphocytes and plasma cells in the bone marrow. Three macroglobulin peaks, and later 5, were demonstrated by ultracentrifugation studies. These migrated with the gamma globulin and demonstrated a markedly positive PAS staining reaction on paper electrophoresis. Nitrogen mustard and Au^{198} failed significantly to alter the basic disease. The use of Au^{198} was followed by a severe pancytopenia and a transitory improvement in the patient's symptoms.

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BIBLIOGRAPHY

1. WALDENSTRÖM, J.: Acta med. scandinav., 1944, **117,** 216.
2. WALDENSTRÖM, J.: Schweiz. med. Wchnschr., 1948, **78,** 927.
3. WALDENSTRÖM, J.: Presse méd., 1949, **57,** 213.
4. BICHEL, J., BING, J., AND HARBOE, N.: Acta med. scandinav., 1950, **138,** 1.
5. TISCHENDORF, W., AND HARTMANN, F.: Acta haemat., 1950, **4,** 374.
6. DALGAARD, E. B.: Acta path. et microbiol. scandinav., 1950, **27,** 506.
7. SCHAUB, F.: Schweiz. med. Wchnschr., 1952, **82,** 890.
8. MCFARLANE, A. S., DOVEY, A., SLACK, H. G. B., AND PAPASTAMATIS, S. C.: J. Path. & Bact., 1952, **64,** 335.
9. HABICH, H.: Schweiz. med. Wchnschr., 1953, **83,** 1253.
10. SCHAUB, F.: Ibid., 1953, **83,** 1256.
11. PERNIS, B., WUHRMANN, F., AND WUNDERLY, C.: Acta haemat., 1954, **11,** 309.
12. MÜLLER, H. (Munich): München. med. Wchnschr., 1954, **96,** 221.
13. SCHAMAUN, M.: Schweiz. Ztschr. allg. Path., 1954, **17,** 25.
14. LONG, L. A., AND OTHERS: Canad. M. A. J., 1955, **73,** 726.
15. DI GUGLIELMO, R., AND ANTONINI, F. M.: Sang, 1955, **26,** 249.
16. LAYANI, F., ASCHKENASY, A., AND BENGUI, A.: Presse méd., 1955, **63,** 44.
17. HÖRNER, H.: Klin. Wchnschr., 1955, **33,** 1110.
18. MANDEMA, E., VAN DER SCHAAF, P. C., AND HUISMAN, T. H. J.: J. Lab. & Clin. Med., 1955, **45,** 261.
19. VOIGT, A. E., AND FRICK, P. G.: Ann. Int. Med., 1956, **44,** 419.
20. MACKAY, I. R., ERIKSEN, N., MOTULSKY, A. G., AND VOLWILER, W.: Am. J. Med., 1956, **20,** 564.
21. JIM, R. T., AND STEINKAMP, R. C.: J. Lab. & Clin. Med., 1956, **47,** 540.
22. FERRIMAN, D., AND ANDERSON, A.: Brit. M. J., 1956, **2,** 402.
23. SCHULTEN, H., AND KANZOW, U.: Folia haemat., 1956, **1,** 49.
24. ZLOTNICK, A.: Am. J. Med., 1958, **24,** 461.
25. WILDE, H. (Freiburg i. Breisgan) AND HITZELBERGER, A. L. Blood, 1954, **9,** 875.
26. HAMPTON, J.: New England J. Med., 1958, **258,** 1293.
27. DACIE, J. V.: Practical Haematology, 2nd ed. New York: Chemical Publ. Co., 1956, p. 126.
28. PEDERSEN, K. O.: Ultracentrifugal Studies on Serum and Serum Fractions. Uppsala, Sweden: Almqvist, 1945.
29. PUTNAM, F. W., AND UDIN, B.: J. Biol. Chem., 1953, **202,** 727.
30. HABICH, H., AND HÄSSIG, A.: Vox sanguinis, 1953, **3,** 98.

STATUS OF TREATMENT OF THE ACUTE RADIATION SYNDROME

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THE SEGMENT of the medical profession which is devoting itself to the problems inherent in the uses and applications of nuclear power is in a peculiar situation. Most of our concern is with a syndrome that does not occur spontaneously in man, yet can occur under certain conditions. As a result, we must study the responses of as many mammalian species as possible and then make a decision as to the best method of extrapolation for human conditions. Some of the animal data are easily transposed; much of it, however, is not.

Yet the pressure to define the problem in man is great. We must suggest methods of managing the problem of radiation exposure in man with very little human data to confirm or refute our recommendations. The problem is large, and we wish to focus on only one aspect, namely, acute exposure of the whole body (or most of the body) to penetrating radiations from an external source. Our discussion will not include the possible long-term effects, such as genetic alterations or the carcinogenic aspects of isotopes that may be retained within the body. Acute exposure for the purposes of this discussion will imply radiation received instantaneously, as from a nuclear explosion, or delivered at a rather steady rate over a period of no more than 24 hours, as in an area contaminated by nuclear radiation fallout.

There are only 3 kinds of radiation which fit the above criteria.

1. *Gamma radiation.* The classic source of gamma radiation is, of course, radium^{226}. Many isotopes, natural as well as those produced artificially, are also sources of gamma radiation. Regardless of source, however, all are identical except for their energy. The energy is measured in electron volts; ev and its physical derivation need not concern us here. In practice the units are actually millions of electron volts, Mev. For example, Ra^{226} is 1.2, I^{131} 0.66 and K^{40} 1.4. In general, the more energetic sources are more penetrating.

2. *X-rays.* This form of radiation is identical with gamma radiation except that for practical purposes the source is always an X-ray machine. Its energy also varies depending upon the characteristics of the X-ray equipment, but energies comparable to gamma radiation are available.

3. *Neutrons.* The only practical source of neutron radiation is a nuclear reaction. Neutrons differ from gamma and X-rays in that they consist of discrete particles of matter in contrast to "energy bundles."

Terminology in the field of radiation exposure is confusing but for our purposes need not be so. X-rays and gamma rays may be measured in air directly from their source by means of an ionization chamber. The unit so determined is the familiar roentgen. However, neutrons cannot be measured this way, and the roentgen does not apply to neutrons. The biologic problem is perhaps better expressed in terms of the dose actually delivered to living tissues. Recently, the term "rad" has been adopted and represents the absorption of 100 ergs of energy per gram of irradiated material. One roentgen leads to the absorption of about 87 ergs per gram. The energy absorption for neutrons may be determined by appropriate methods and expressed in rads. Thus, in some of the recent publications the radiation exposure is listed in these new units. For detailed discussion of this area the recent report of the International Commission on Radiological Units and Measurements (ICRU) is recommended.[1]

Additional complexity is introduced when the biologic effect of gamma or X-radiations of different energy are compared (30-day lethality, organ weight loss, etc.).[2] There appear to be differences in effectiveness, which may be a simple function of depth dose. Neutron radiation also appears to be different from gamma radiation even though the same number of rads are delivered. Depending upon the biologic end-point measured a neutron rad may be more or less effective than a gamma rad. To equate the two, the term relative biologic effectiveness, RBE, has been introduced. Unfortunately, there is no standard radiation used as the baseline, but usually it is either a 250 kv X-ray machine or the Ra^{226} gamma radiation. Other types of radiation are then compared to one of these two standards, and if at the same rad dose the biologic effect is less than the standard the RBE is something less than 1.0; if more, the RBE is greater than 1.0.

For the purposes of most general presentations, including this one, the clinical course of events following X, gamma, or neutron radiation is considered to be essentially the same. It is well, however, for the physician to visualize the newer "rad" unit and the concept of RBE so that the recent technical literature may be interpreted.

The clinical course and lesions of the acute radiation syndrome have been amply described,[3-6] within fairly broad exposure limits, considering the biologic variations among individuals, and we can predict the clinical sequence of events and, more important, the type of complications likely to occur. Below approximately 200 rads exposed individuals will not normally require treatment. They may have transient nausea, vomiting, and malaise as well as a drop in the circulating leukocytes, but all will quickly recover.[7] In the dosage range from 200 to 800 rads most individuals will develop the familiar radiation syndrome, with those receiving greater exposures responding earlier and more severely. Nearly all above 300 rads will require hospitalization. One thousand rads is considered as virtually a 100 per cent lethal dose. In the critical exposure range between 300 and 800 rads, medical treatment, as we understand it today, can do much to alter the clinical course. The primary lesion is a pancytopenia, and the usual complications are infection and hemorrhage. In addition, many individuals will demonstrate early severe gastrointestinal symptoms including vomiting and diarrhea. Fortunately, the marrow depletion is temporary, and if the individual can be successfully supported during the period of acute depression, regeneration occurs spontaneously.

Infection and bleeding are the most common direct causes of death. Animal data have demonstrated that aggressive therapy directed against intercurrent infections, the hemorrhagenic tendency, and alterations in normal physiology is practical.[4, 8-11] There is no reason to believe that such measures will not be as useful in human cases.

The antibiotic used to combat the acute radiation syndrome should be given with the same rationale as in any infection, such as a specific drug if possible, doses large enough to prevent the development of tolerance, and administration only when indicated. The latter, as far as radiation illness is concerned, means that antibiotics are reserved until there is evidence of infection.

The remaining threat of pancytopenia, thrombocytopenia, may be reduced by platelet transfusions. For isolated cases, as a reactor accident or other accidental exposure, such transfusions are practical. In a large scale disaster no such measure is readily available. Blood transfusions may be of value if anemia is profound, but again this is of practical value only in isolated incidences.

Measures to make the patient comfortable are also indicated. The early nausea and vomiting may respond to sedation. Parenteral feeding to maintain a satisfactory nutritional status for the illness to come will contribute to a successful recovery.

Doses of whole body radiation (above 800 rads) that destroy the marrow completely without hope of spontaneous regeneration are beyond the benefits of measures available today, as are, of course, all higher doses. However, we believe the straightforward and simple measures we have outlined will reduce the mortality to considerably less than 50 per cent for all doses up to 800 r.

Above 800 r we can only recommend that the same therapeutic steps be taken, at the proper time. For many the issue will be settled in a few hours or days without regard to treatment. This is a depressing and frustrating situation and leads logically to the question, "What is being done about this?"

The answer to the question may be visualized, albeit dimly, in the laboratory, where considerable efforts are being expended.

The experimental approach to the management of acute radiation sickness shows its greatest promise in 2 areas, first, measures available before radiation exposure occurs to lessen its effect, and, second, measures available after exposure has occurred. In both of these considerable progress is being made and the path ahead seems clear, although it has not yet been traveled.

Certain chemicals when administered to mice prior to exposure will offer essentially complete protection against a 100 per cent lethal exposure.[12-15]

Of these, mercaptoethylamine (MEA) and aminoethylisothiuronium (AET) are the best described to date. These and others that are effective in rodents are unfortunately too toxic when given in therapeutic amounts to larger animals. Their mechanism of action is not clearly understood, but they must be present in sufficient concentration at the time of exposure. They have no effect if given after radiation. Also they must be given relatively soon before the radiation, since their duration of action is limited. Until recently these seemed to be insurmountable problems. However, recent laboratory experiments at the Walter Reed Army Institute of Research have demonstrated that practical solutions may be devised.[16] The problems of toxicity and duration of action are as old as pharmacology itself and have had to be solved for many of the drugs in common use. Although no pre-protective drugs are available for use in man today, it seems reasonable to hope that ultimately the effects of radiation may be at least partially reduced.

The major laboratory efforts in treatment after the exposure are directed toward replacement of the bone marrow. It has been shown in rodents that marrow can be given after exposure and will grow and replace that destroyed by radiation. The problem here is similar to any transplanted tissue. After a few days or weeks antibodies are developed in the recipient which reject the transplant, often with disastrous consequences.[17, 18, 19] However, if the marrow is truly isologous the animals will survive without demonstrating any of the otherwise chronic effects of radiation.[20]

It would appear that transfusion of embryonic hematopoietic tissue may well avoid some of the problems inherent in genetically dissimilar transplants.[21, 22] If this is, in fact, true, a most important hurdle may have been overcome, making marrow therapy feasible and practical for humans.

(Continued on page 242)

URGENT PEDIATRIC SURGICAL CONDITIONS AS VIEWED BY A PEDIATRICIAN

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AS WE ATTEMPT to organize the occurrence of urgent pediatric surgical conditions, we are impressed with the large number which take place during the early newborn period. Since respiratory system distress is one of the most serious of infant conditions, this should be considered first. Choanal atresia is a rare cause of respiratory distress in the newborn. Because the infant resists breathing through his mouth and is unable to suck if he has a complete nasal obstruction, the infant with choanal atresia may be admitted to the hospital with a diagnostic impression of severe cyanotic heart disease or some other serious respiratory problem. Some nurseries routinely insert a catheter through each nostril into the pharynx of all newborn infants to rule out this serious anomaly, so that urgently required surgical measures may be instituted when obstruction is found.

Pneumothorax may be associated with known trauma at birth and may cause severe respiratory difficulty in the neonate, or it may occur spontaneously in the older infant or child and cause increasingly severe respiratory distress which may require surgical relief. Insertion of a small catheter into the pleural space and maintenance of negative pressure is often the only treatment necessary. Rarely is open surgery indicated. In acute respiratory distress the diagnosis is made by physical examination of the chest and the finding of absent breath sounds and comparative hyperresonance on percussion. It may be confirmed by X-ray examinations.

Tension cysts and lobar emphysema may produce rapidly progressive dyspnea and may necessitate immediate surgical intervention. At times these conditions may be difficult to differentiate from pneumothorax and even diaphragmatic hernia with abdominal viscera filling the lung space. A small contrast feeding will help in the latter case, and thus an immediate plan of approach may be reached.

Various vascular abnormalities of and about the greater vessels of the heart are rather common findings. Only the rare one, however, is so constricting on the esophagus and/or trachea that it requires urgent surgical correction. With a high index of suspicion it is possible to make a quick diagnosis by giving a contrast feeding to certain infants and children with respiratory and feeding difficulty. These anomalies may or may not be associated with other congenital heart lesions.

One of the most dramatic advances in pediatric surgery has been in esophageal atresia with tracheo-esophageal fistula. The mortality in this condition has dropped from 100 per cent to 30 per cent with 70 per cent of infants being restored to a normal existence. Because of the accompanying difficulty with overflow into the respiratory tract from the blind-end esophagus, this diagnosis is made by the pediatric nurse who offers the newborn infant his first feeding. The diagnosis is quickly confirmed when the resident attempts to insert a firm rubber catheter into the stomach without success. A lasting picture of the confirmed diagnosis may be made by inserting 2 to 3 cm. of radiopaque material through the catheter into the pouch. From this moment no time should be lost in further speculation, otherwise the golden hours when the newborn has an inherent capacity for withstanding trauma will be lost and infection will intervene. With continuous gentle suction on the catheter in the proximal esophagus and with the head of the crib tilted upward, these infants should be taken immediately to the surgeon equipped to handle the problem. These measures will tend to minimize the inevitable aspiration and development of pneumonia. The mortality rate is directly related to the time interval between birth and corrective surgery. Those cases diagnosed after the first 2 days of life have an increasingly poor prognosis.

The increasing number of infants and children with staphylococcus pneumonia, which is often resistant to the usual antibiotics, has caused urgent surgical conditions of the chest, and the pediatrician should be suspicious of this possibility in any young infant with a very toxic pneumonia process, especially if pneumatoceles are observed in the X-ray film of the lungs. Occasionally, the collection of effusion, pus, or air is so massive and rapid that it causes respiratory difficulty from compression of the lung and mediastinal displacement. The immediate institution of underwater catheter drainage is required. Because of multiple localizations it may be necessary to insert several catheters in rapid succession for adequate drainage. We have had as many as 4 catheters draining as many cavities in one side with eventual recovery of the infant.

Foreign bodies in the natural passages of the body are frequently encountered, and if the respiratory tract is involved they may require immediate removal. Rarely is there reason for delaying removal from the respiratory tract, once the diagnosis is established. The use of the stethoscope is frequently a better diagnostic tool than a single X-ray film in early obstruction of bronchi and should always be used for localization. If inspiratory and expiratory films can be obtained, or if a segment is completely collapsed, the diagnosis can be confirmed by X-ray films. The rule that a foreign body will pass through the entire alimentary tract if it enters the stomach with ease does not always hold true, since there may be congenital narrowing at any area which may be discovered only when there is obstruction by a small solid foreign object. It is of some importance to know the material contained in a foreign body which remains in the stomach or passes slowly, since serious lead poisoning has been recognized when lead-containing objects have remained in the tract for what would be considered by most physicians only a reasonable time of watchful waiting.

When faced with a possible urgent surgical lesion in the gastrointestinal tract, our interest is directly mainly to answering 3 questions.

1. Is obstruction present?
2. What is the location of the obstructive lesion?
3. What is the nature of the lesion?

The answer to the first of these questions is usually apparent to the experienced physician. The other 2, however, may be difficult or impossible to determine before an exploratory procedure is undertaken. This is mentioned to stress the point that exploration should be decided upon and done without delay when indicated.

It may sound trite to state that the solution of any problem in medicine begins with the history. Some pediatric surgical conditions are obvious on inspection; however, depending on their severity and site, obstructive lesions of the alimentary tract may not be suspected immediately. Since these lesions may cause vomiting, abdominal distention, and obstipation as common symptoms, it is essential to evaluate each symptom. I have already said that prompt emesis associated with cyanosis after taking water or formula for the first time suggests the presence of a tracheo-esophageal fistula. Persistent early vomiting of bile-stained material from the first or second day is found in atresia below the ampulla of Vater. Other causes of obstruction in this area with similar emesis are annular pancreas with duodenal compression and incomplete rotation of the intestines. In all 3 the stomach and parts of the duodenum are distended with air and therefore are easily shown on a plain X-ray film. In jejunal atresia a portion of that segment may also be shown. Examination of the stool may be quickly done, and the absence of desquamated epithelial cells supports a diagnosis of atresia. If the obstruction is incomplete, air may be seen throughout the intestinal tract. A small enema of contrast material may show the position of the cecum to be in the epigastrium or right upper quadrant, thus differentiating malrotation. Plain films will often provide conclusive evidence, and rarely do further studies help in making a more exacting diagnosis or in the treatment. The entire body of the infant is usually included in such a film. This not only aids in locating abdominal lesions, but often unsuspected conclusive evidence of chest lesions will be revealed. These films will also reveal pneumoperitoneum from perforated bowel lesions and occasionally areas of calcification in the abdomen which may suggest an earlier meconium peritonitis localized enough to lead the surgeon to the point of atresia.

When interpreting air within infants' bowels, one must be aware of the extreme normal variations of both the distribution and the quantity of air within their intestinal tract. Air reaches the small bowel an hour after birth and by 3 hours, and throughout infancy, the entire small bowel may normally contain air. The amount may be so great that to the radiologist it simulates lower bowel obstruction or paralytic ileus. In nonobstructed infants, fluid levels within both the large and the small bowel are not infrequently seen on films taken with the patient in an upright position. Again the diagnosis of intestinal obstruction should be made quickly with the aid of the history, physical findings, and clues obtained from the expeditious use of X-ray and laboratory aids. When clinical evidence and plain films clearly indicate obstruction, it seems completely unjustifiable to risk patient deterioration by further prolonged examinations merely to satisfy the academic mind. The surgeon must be willing to accept what he finds for correction, if possible, and not be disappointed in that a correct anatomic diagnosis was not made preoperatively.

Increasing reports of the successful treatment of intussusception in older infants and children by hydrostatic pressure are beginning to convince the most skeptical that many patients with this condition may be safely treated and spared the increased morbidity of surgery and the resultant prolongation of their hospitalization. To those who object to the use of this method for reducing intussuscepted bowel, visions of spillage through gangrenous bowel is ever before them. In actual practice, however, this does not appear to occur when proper technics are employed, inasmuch as gangrenous bowel does not reduce and perforation does not occur. This should be considered a surgical procedure and should be performed in conjunction with the radiologist and the pediatrician, so that if reduction is not accomplished or is even in doubt the stage is already set for immediate operation. One may then accept the procedure as a diagnostic one and nothing has been lost.

Congenital functional intestinal obstruction or agenesis of the myenteric plexus may present alarming symptoms early in life which are indistinguishable from organic obstruction. Again, the surgeon should not be chagrined at operation to find no gross organic lesion in an occasional young infant with classical signs of obstruction. The condition in the older child, of course, may be readily diagnosed by a history of obstipation which has been present from the time of birth and demonstration of the aganglionic area by contrast X-ray study.

Meconium ileus with obstruction may be the first evidence of the dread congenital hereditary condition variously called cystic fibrosis of the pancreas or mucoviscidosis. The mottled pattern of the meconium-filled bowel, the small caliber of an unused colon, or the presence of calcium in the peritoneal cavity or bowel may give a preoperative clue to the correct diagnosis. A history of associated difficulties in siblings is commonly obtained. In any event, the need for immediate surgical relief is often evident and the diagnosis is easily recognized upon exploration. At present, unfortunately, the future well-being of these children, even with the best of follow-up treatment, is less than optimistic.

Imperforate anus or anal atresia should be diagnosed by inspection at the first examination, but because I have had the experience of having an infant diagnosed by the parents after leaving the hospital, I routinely take a rectal temperature on every admission to the nursery. Although severe symptoms are usually delayed more than in proximal obstruction, these lesions are frequently associated with malformations connecting with the genitourinary system and should be corrected at the earliest possible time. An opaque indicator in the anal dimple, with the infant in the upside-down position when plain films are made, may help in determining the length of atresia present.

Omphalocele demands surgical correction at the earliest hour possible after birth. The protruding structure is covered only by peritoneum and amniotic membrane, which within hours becomes dry and open to infection. The mortality rate is directly related to the ease with which the surgeon is able to return the contents of the sac to its proper place with closure before infection occurs.

Masses in a renal area and other abdominal masses, which later prove to be kidney lesions or lesions related to other systems within the abdominal cavity, constitute a large segment of urgent abdominal surgery. Whether these lesions occur in the newborn or in older children, they should be explored quickly. Experience indicates that the majority of unilateral masses in the neonate prove to be multicystic kidneys, although a rare one proves to be a malignant lesion; therefore, as soon as a functioning kidney can be demonstrated on the opposite side, further instrumentation is only a delaying action which may be vital as far as the patient's welfare is concerned. The same may be said for unilateral masses in older children in which no metastatic lesion can be detected in the lungs or bones by X-ray examination. Since a large per cent of these prove to be either neuroblastoma or Wilms's tumor, the demonstration of a functioning kidney on the opposite side is an indication for immediate operation. We are negligent if we allow 24 hours to pass after admission of such a patient and still have been unable to convince the surgeon of the need for exploration. Speculation as to the type of tumor is interesting and the diagnosis is often correctly determined, if not directly by the findings, then perhaps by statistics. To be sure, one is occasionally surprised to find a nonfunctioning hydronephrotic kidney, a duplication cyst of the gastrointestinal tract, or even lesions related to the reproductive system, especially if the patient is female; however, rarely is a patient's condition bettered by delaying treatment.

A few, but by no means all, of the urgent pediatric surgical conditions related to several of the surgical specialties have been mentioned. Differences in points of view in handling these conditions would probably be nonexistent if one could discuss each lesion at length. Let us hope that the pediatrician always improves his ability to recognize the urgent case in these young infants who only by their abnormal behavior cry out for the skillful hand and good judgment of the surgeon.

MEDICAL AND SURGICAL ASPECTS OF DISSECTING AORTIC ANEURYSM

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THE CHARACTERISTIC clinical and pathologic features of aortic dissection have been recognized for many years. The etiology of the basic underlying lesion, a degeneration of the media, remains obscure, as does the immediate cause of the dissection, the intimal rupture.

With the advances being made in vascular surgery it is only natural that there is a renewed interest in the treatment of dissecting aneurysm. Several groups have now reported successful surgical attempts.[1-4] Although, admittedly, the results are palliative, not curative, they warrant an expanded interest.

The following illustrative case is followed by a brief discussion of current medical and surgical concepts.

REPORT OF CASE

A 65-year-old white male executive was engaged in quiet conversation 3 hours prior to admission when he noted the sudden onset of a deep-seated discomfort along the medial aspect of the left scapula. Shortly thereafter he was aware of numbness in the fingers of the hands. He felt faint and experienced a transient cold sweat. The pain was aggravated by inspiration. The patient denied cough or chest pain and had not had hemoptysis. The pain was only partly relieved by an injection of morphine, and the patient was admitted to Walter Reed Army Hospital.

Mild hypertension had been present for 10 years. First degree A-V block had been noted 5 years previously. The patient had noted occasional palpitation. He denied knowledge of any heart murmur and had not had angina or symptoms of cardiac decompensation. He had not had symptoms of peripheral vascular disease. The review of systems was noncontributory. The patient's mother in her seventies and his father, aged 61, had died suddenly of "heart trouble." There was no family history of high blood pressure.

Physical examination revealed a well-developed and well-nourished white man lying flat in bed in moderate discomfort from back pain. The blood pressure in the upper expremities was 154/84, the pulse rate was 84 per minute and the rhythm regular, and the temperature was 98.6°F. The aortic second sound was mildly accentuated. No cardiac murmur or friction rub could be heard. There were subcrepitant inspiratory rales over each posterior lung base, particularly the left. Excursion of the left diaphragm was limited by pain associated with inspiration. The peripheral pulsations were normal and symmetrical. The remainder of the physical examination was unremarkable.

The white blood cell count was persistently elevated to approximately 11,000, with a normal differential count. Serial transaminase levels were normal. An electrocardiogram on admission revealed first degree heart block and nonspecific ST-T wave changes in AVL and V4 to V6. There was no evidence of left ventricular hypertrophy. Serial electrocardiograms showed a return toward normal of the ST-T wave contour.

In the days subsequent to admission intermittent midscapular pain persisted. On the third hospital day severe midback pain appeared. On the fourth hospital day "tearing" epigastric pain was transiently present. On the sixth hospital day a roentgenogram of the chest taken 17 months previously was obtained. Comparison with a roentgenogram taken upon admission demonstrated an increase of 0.75 cm. in the diameter of the aortic knob (figures 1 and 2). Calcification previously noted at the periphery of the knob was now visualized within the body of the aorta. The clinical impression of dissecting aorta being thus further substantiated, the patient was taken to surgery on the seventh hospital day.

Thoracotomy revealed a markedly dilated, cyanotic arch and proximal descending aorta. The involved segment was softly compressible and exhibited greatly dampened pulsations. At the midthoracic level the aorta again became normal in size and color with visible pulsations.

Partial left by-pass of this area, left atrium to left femoral artery, was instituted prior to cross-clamping of the aorta. Because of technical difficulty in maintaining the left atrial sump drain in place this procedure was abandoned and rapid aortotomy under Arfonad protection was accomplished. A thick voluminous black clot was immediately evacuated upon incising the outer tube.

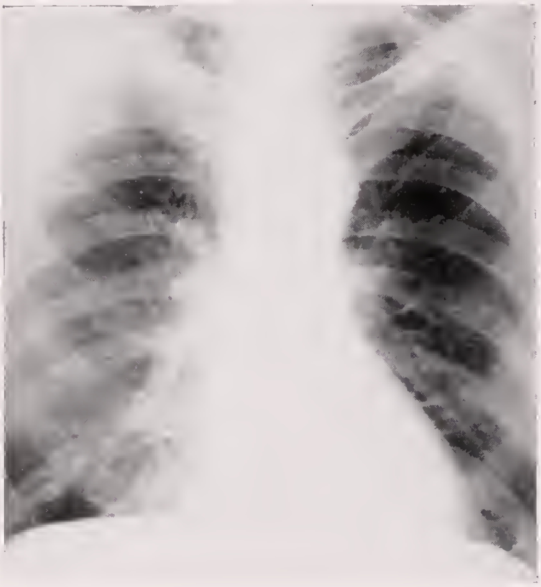

FIG. 1. X-ray film of chest 4 months prior to dissection.

A re-entry window was created in the lowest portion of the inner barrel and its lower edge sutured to the intact aortic wall to prevent subsequent distal dissection. The outer aortotomy incision was repaired. The patient's spontaneous observation immediately upon regaining consciousness that the pain was less severe and of a different character was most encouraging to his physicians.

The immediate postoperative course was unremarkable. Minor paresthesias in the left hand persist but are improving. The blood pressure in each upper extremity averages 170/100, and all peripheral pulses are full and symmetric. Three months postoperatively the patient has no complaints, is active, and has returned to work.

DISCUSSION

Aortic dissection was described as early as 1761, with almost a thousand cases being reported up to the present time. Medial degeneration is the basic requisite for dissection; this degeneration, however, may be seen in a variety of clinical states as well as numerous apparently unrelated diseases. Thus, accumulations of mucoid material may be seen in the aorta of apparently normal individuals of any age. Dissection has often been reported in association with Marfan's syndrome, bicuspid aortic valve, coarctation of the aorta, and other congenital cardiac lesions. The association of aortic dissection with hypertension is well known. Pregnant females have an unexplained predisposition to dissection, related perhaps to antecedent hypertension, congenital malformation of the aorta, or undefined hormonal influences of pregnancy.

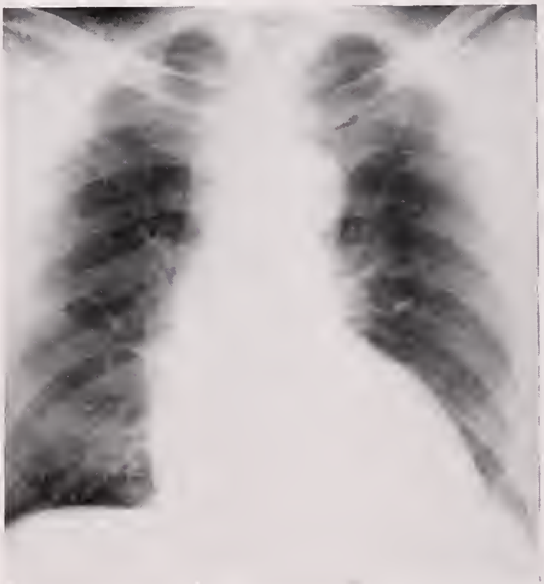

FIG. 2. X-ray film immediately after dissection. Note double aortic density. Calcium can be seen well within the outer silhouette.

Dissection of the aorta is unusual in syphilitic aortitis. As yet unknown is the underlying cause of the medial degeneration; incriminated have been abnormalities of the vasa vasorum and primary elastic tissue defects. It is of interest that similar appearing dissections of the aorta occur naturally in turkeys, and have been produced experimentally in rats by the feeding of a diet containing a high percentage of sweet pea meal.[5] Supplemental Desoxycorticosterone acetate (DOCA) reportedly increases the incidence of dissection in sweet pea-fed rats previously sensitized by unilateral nephrectomy.

Dissection of the aorta is an unusual but not rare disorder. It has been estimated to be present in 1 of every 363 autopsies and in 1 of every 10,000 hospital admissions.[6] A certain percentage of aortic dissections are not recognized clinically but are found only at autopsy; many of these cases have been shown to have a distal site of re-entry between the aneurysmal sac and the original lumen.

The natural course of untreated dissection is not entirely established. Among those cases reported by Shennan[7] 84 per cent had expired within 1 week. In a recent most thorough review of the entire subject of dissecting aneurysm[6] the survival period was indicated in 425 cases reviewed; 62 per cent expired within the first week and 90 per cent were dead within 6 months. Thus the occasional finding of a "self-healed" dissection at autopsy, or report of prolonged survival in an untreated case, should not obscure the fact that a patient presenting with an acute dissection has an extremely poor prognosis if treated "conservatively."

The operative mortality in such surgery, performed under emergency conditions, often on patients gravely ill, cannot be expected to be low. There is reason to believe, however, that modern technics in competent hands can considerably improve the prognosis compared to an untreated group. At surgery either resection and grafting or the creation of a re-entry point is attempted. The use of partial left by-pass of the heart combined with judicious use of hypotensive agents promises improved results over those obtained with hypothermia. In the latter, proximal dissection with ruptures or heart failure incident to the increased strain imposed by aortic cross-clamping often proved fatal in the operating pavilion.

Certain relative contraindications exist to surgery. These would include significant impairment of vital organs (e.g., central nervous system, intra-abdominal viscera, kidneys) due to distal propagation of the dissection, irreversible shock, the lack of an expert surgery-anesthesia team, etc. However, in the absence of any contraindication, it is recommended that all patients be considered for emergency surgical repair as soon as the diagnosis of aortic dissection has been made. The diagnosis ordinarily is not difficult, although it must be recognized that the typical clinical picture is subject to wide variation. A history of hypertension is very often present. The pain may be suggestive of myocardial infarction but usually is referred prominently to the abdomen or low back. Inequality of pulse and blood pressure in the extremities is highly suggestive. Chest roentgenogram, especially when compared to a previous study, is of the greatest value. Of considerable diagnostic help, but also of considerable danger to the patient, is aortography. The rapid forceful injection of large volumes of contrast media into the aorta may itself produce an intimal tear or extend the dissection with fatal consequences. Although venous angiography is less hazardous, it is less productive of useful information.

SUMMARY

Recent advances in vascular surgery promise to reduce the prohibitive mortality associated with the conservative therapy of aortic dissection. Thus, this fascinating and unusual entity, which may dramatically present at any hour in any hospital, is the subject of renewed clinical interest. A case presentation wherein a successful re-entry of an acute aortic dissection was accomplished is reported.

BIBLIOGRAPHY

1. DeBakey, M. E., Cooley, D. A., and Creech, O., Jr.: Surgical considerations of dissecting aneurysm of aorta. Ann. Surg., 1955, **142,** 586.
2. DeBakey, M. E., Cooley, D. A., and Creech, O., Jr.: Surgical treatment of dissecting aneurysm. J.A.M.A., 1956, **162,** 1654.

(Continued on page 242)

President's Page

THE MIDWINTER SEMINAR

The Eighth Midwinter Seminar, held during the last week of February, was pronounced a great success by all who attended and commented on the program. The three sessions of the Seminar were devoted to a discussion of acute and chronic pulmonary insufficiency, with particular attention paid to chronic pulmonary emphysema. This excellent program was well organized, and was given in an interesting series of presentations. Great credit is due to the Program Committee for arranging this Seminar.

Attendance was gratifying to some, but was disappointing to me. There were approximately 200 in attendance the first night, somewhat fewer the second night, and perhaps 170 the third night. With a Society membership (all categories) of more than 2,000, a few hundred non-member physicians in the metropolitan area, a few hundred residents and interns, and a large number of third- and fourth-year medical students in the 3 local medical schools, this attendance cannot be considered good.

In the past decade the number of meetings of attending staffs in hospitals, especially those approved for intern-resident training, has increased greatly. These staff meetings include scientific discussions intended to assist in the training of the house staff as well as to improve the knowledge of the attending staff. Newer methods of diagnosis and treatment are emphasized. Attendance at such meetings is required by staff by-laws, and, in many instances, is insisted on by the Joint Commission on Accreditation of Hospitals. It is easy to understand how many members of the Society soon became surfeited with medical meetings and go only to those where attendance is required.

The question arises: What type meeting should the Medical Society sponsor, and how many such meetings should there be each year? The present by-laws provide for 2 regular scientific meetings each year, the Midwinter Seminar, held in February, and the ANNUAL SCIENTIFIC ASSEMBLY, held in November. Each makes a substantial contribution to the continuing medical education of those engaged in practice. A review of the programs of the Seminars held during the past several years shows well organized and well presented discussions and panels covering a wide range of medical subjects that should interest both the general practitioner and the specialist.

The number of scientific meetings is not excessive, and the subject matter has been more than adequate to interest most physicians. It would seem that even greater effort must be put forth, and perhaps new methods devised, to interest a larger part of the medical community in these Seminars.

W. LeRoy Dunn

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Editorials

FIFTIETH ANNIVERSARY OF WALTER REED ARMY HOSPITAL

Congratulations are due the Medical Service of the United States Army on the fiftieth anniversary of the founding of Walter Reed Army Hospital. This is not only an outstanding service institution but one of the great hospitals of our land. This issue of the Medical Annals is dedicated to Walter Reed Army Hospital, which celebrates its fiftieth birthday on May 1. It is highly appropriate that the scientific section of this issue has been contributed by the staff of the Walter Reed Army Medical Center. A historical sketch of the Hospital, prepared by Dr. Herbert P. Ramsey, also appears in this issue.

The Medical Society of the District of Columbia is proud of the fact that one of its former members conceived the idea of the Hospital and Center and lived to see it become a reality. He was Lt. Colonel William Cline Borden, who, after retirement from the Army Medical Corps,

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of The Medical Society of the District of Columbia

became Dean of the George Washington University School of Medicine. An account of the full life of this distinguished physician can be found in the October, 1936 issue of the Annals, written by one of his sons, Dr. Daniel L. Borden, a former President of the Society.

The officers, Executive Board, and all members of the Society wish Walter Reed Army Hospital "many happy returns of the day."

VOCATIONAL REHABILITATION IN THE DISTRICT OF COLUMBIA

A growing social and economic problem of our community is the rise in the number of disabled persons who have not been able to attain the same level of the wholeness of life that the rest of us enjoy. There are a number of reasons for this; to name a few:

An increasing population which naturally results in more congenital malformations;

A faster pace in living which produces more crippling conditions from accidents;

Successes of medical science causing changes in life span and age composition;

Frequent negative attitudes on the part of disabled persons toward their disabilities;

Employer prejudice and a lack of willingness to accept a physically handicapped person; and

A growing feeling that legally and morally the City should assume responsibility for the health and welfare of the disabled.

District residents are hearing more and more about a need for larger appropriations to support the workings of our Municipal Government. Earlier this month statistics relating to the District of Columbia Government indicated we have reached a dramatic milestone in terms of the future of our City. From the number of crippling accidents, incidents, etc. recorded in the past, it is established that approximately 1,300 Washingtonians will become disabled in the next year. We can expect this figure to increase by 26,000 during the next 20 years, which means that by the time today's newborn child is ready to graduate from high school the District will have almost 30,000 disabled residents.

Such statistics point up the need to consider the course of action we shall take in providing for the disabled in the immediate years ahead. While we are quite prepared on the basis of humanitarian ideals to undergo increased taxation in caring for the disabled, there are other considerations beyond the economics—principally, the democratic ideal that each person is unique and that he has the right to participate in all aspects of life and that as a member of the community he should contribute to our society to the fullest extent of which he is capable.

For perspective let us quote Dr. Dean W. Roberts, Executive Director, National Society for Crippled Children, who said: "Each period in history may be characterized by its attempt to free man's creative power. Looking back upon our era, the historian of the future may point to the nuclear adventure, as one mark of man's creativity, tinged as it is with the threat of world destruction. Also impressive and dramatic are the efforts of a dedicated group to free a segment of our population—the physically disabled—through rehabilitation."

With that, let us look at this matter of rehabilitation and at the process that is necessary to accomplish it.

Rehabilitation has been well defined as "the restoration of the disabled to the greatest physical, social, and economic usefulness of which the person is capable." The process must of necessity include the services of a great many people—from the physician at the onset of the illness or injury to the specialist when the maximum adjustment to the disability has been attained. Since these services cover a vast number of disciplines it is logical to assume it will never be possible to place them all in one location, and therefore the services must be closely coördinated and integrated.

Since it will never be possible to achieve complete rehabilitation without the will and coöperation of the patient, it logically follows that in planning, consideration must also be given to coördinating all services to needs of the individual. Generally, they fall into the following broad categories: medical, psychologic, spiritual, educational, social, economic, and vocational needs.

Serving the vocational needs is the aim of agencies such as the Department of Vocational Rehabilitation of the District of Columbia. The services, however, must be geared to the medical advancement of the patient, generally through consultation with his personal physician. Thus, while the patient is still receiving medical treatment the vocational rehabilitation plan can be designed and implemented according to individual needs.

The physician, therefore, is in an ideal position to locate and evaluate disabilities as well as to make referral at the most opportune moment. The services of the rehabilitation agency can be rendered in conjunction with the physician services, and such a referral offers an excellent opportunity to further the patient's welfare. Any resident of the District at or nearing employable age, regardless of economic status, is eligible to be served, provided there exists a vocational disability. Referral can be made by the physician or his patient by telephoning Executive 3-5268 or by writing the D. C. Department of Vocational Rehabilitation (DVR), 819 Ninth Street, N.W., Washington 1, D.C. The services available, which also include training and selective placement, could lead to a fuller and more satisfactory way of life.

Norman W. Pierson
Acting Director, Department of Vocational Rehabilitation, Government of the District of Columbia

AIR POLLUTION

Recently the Public Health Service sponsored a National Conference on Air Pollution at the Sheraton-Park Hotel in Washington. Over 900 persons, representing many governmental, professional and industrial organizations, attended the three-day session, which outlined practicable future objectives and delineated responsibilities for all the groups concerned.

The problems of sickness and health in relation to air pollution were frequently raised, and although the consensus was that much more needs to be known, there was sufficient concern voiced to result in recommendations for acceleration of research into the intricacies of the "actual and potential threat to health of atmospheric pollution." Studies presented on current research showed that this concern was warranted.

A group of about 200 persons attended a day-long session entirely devoted to considerations of the health effects. Such acute episodes as those which have occurred in London and Donora were discussed and viewed as clinical "cases" of community scope.

The possibility that subclinical "cases" have occurred—unrecognized acute episodes—was discussed and the statement made that "in future years such events may well be recognized as acute episodes of lesser intensity when our observational acumen is sufficiently sharpened."

Presented were the studies and evidence showing the possible disease entities that might be attributed to long and repeated exposure to low concentrations of air pollutants, such as chronic bronchitis, asthma, emphysema, cardiac and circulatory diseases, and cancer.

Significantly, one discussion group devoted its deliberations to the responsibility of practicing physicians, and recommended that: "First, organized medicine, through national, state and local medical societies, should collect and disseminate air pollution information to its membership; second, that the proceedings of this Conference [should] be made available to physicians and public health authorities; that private physicians individually should be encouraged to use local facilities and services, such as local health departments or air pollution control authorities, to assist them in the management of clinical problems that may involve air pollution. Physicians should also serve as interpreters of the health aspects of the problem to their patients and to others in the community."

What does this mean to us in our metropolitan area? There is growing suspicion that both acute and chronic health effects may occur from air pollution. Worth serious consideration is the possibility that the polluted air we breathe may be one of the factors causing certain diseases. That an acute episode may occur soon in Washington is doubtful, but that our populace is subjected to low and continuous amounts of pollution is undoubted, and this exposure might be significant to their health. For an area such as this, too, the large itinerant and changing nature of our population is significant. Many residents have come from highly polluted areas where they may have developed conditions now manifested here. Perhaps some counselling as to their future place of residence when they leave should be considered, especially for those with preexisting conditions which may be worsened by heavy exposure.

Finally, the physician should assist in the planning of his community, advising and counselling so as to avoid the possible health changes and the obvious aesthetic blight that can occur in polluted areas.

Our river has been described as an "open sewer"; we do not wish to have the air over Washington become equally notorious. Although dirty air is often thought to be evidence of man's progress, it is in reality only evidence of his careless habits.

Richard A. Prindle, M.D.
Chief, Air Pollution Medical Program, PHS, Department of Health, Education, and Welfare

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Clinical Obstetrics and Gynecology. A Quarterly Book Series. Vol. 1, No. 4. Symposium on Operative Obstetrics, edited by J. Robert Willson, M.D. Symposium on Genital Cancer, edited by Daniel G. Morton, M.D. Price, $18.00 subscription for 4 consecutive numbers. Pp. 857–1138. New York: Hoeber-Harper, December, 1958.

Vascular Surgery. Geza de Takats, M.D., M.S., F.A.C.S., Clinical Professor of Surgery, University of Illinois College of Medicine; Attending Surgeon, Presbyterian-St. Luke's Medical Center and Research and Educational Hospitals, Chicago, Illinois. Price, $17.50. Pp. 726, with 382 figures. Philadelphia: Saunders, 1959.

The Management of Fractures and Dislocations—An Atlas. Volumes I (pp. 1–470) and II (pp. 471–960). Anthony F. DePalma, M.D., Professor of Orthopedic Surgery, Jefferson Medical College. With 1927 illustrations by Barbara B. Finneson and William A. Osburn. Price, $35.00 for 2 volumes. Philadelphia: Saunders, 1959.

Physical Diagnosis. The History and Examination of the Patient. John A. Prior, M.D., Professor of Medicine, Ohio State University College of Medicine, Columbus, Ohio; Jack S. Silberstein, M.D., Clinical Associate Professor of Medicine, Ohio State University College of Medicine, Columbus, Ohio, and 8 Contributors. Price, $7.50. Pp. 388, with 193 illustrations. St. Louis: Mosby, 1959.

In and Out of Focus

BY THE OBSERVER

"Mark of Our Esteem"

It is especially appropriate that recognition be given Dr. Charles Stanley White, Sr. in the Walter Reed Army Medical Center number of the MEDICAL ANNALS. Dr. White was a student and assistant demonstrator of pathology in the Medical School under Major Reed. He was also anesthesiologist at the operation which immediately preceded Major Reed's death. Dr. White described the latter experience in a highly interesting manner in the August, 1955 issue of the MEDICAL ANNALS.

Many honors have come to Dr. White in his long career. The Medical Society of the District of Columbia, of which he was President in 1927, conferred upon him its Certificate for Meritorious Service in 1949 in "grateful acknowledgment of his outstanding contributions to medicine. . . ." The Certificate further stated that "by example and precept he has had a profound influence for good on medical practice in the District of Columbia."

Dr. White was founder of the Society's highly successful meeting, the ANNUAL SCIENTIFIC ASSEMBLY, which, as Dr. Arthur C. Christie[1] wrote in his biographical sketch of Dr. White, "is now an important and stimulating yearly event in the medical life of Washington."

On January 26, 1959, members of the staff of Doctors Hospital and a few personal friends presented to the Hospital a portrait of Dr. White which had recently been painted. In presenting the portrait, Dr. Paul Putzki stated that it was presented as a "mark of our esteem and respect" for Dr. White.

In the course of his remarks, Dr. Putzki said,

PORTRAIT OF CHARLES STANLEY WHITE, M.D.

(Painted by Bjorn Egeli)

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[1] CHRISTIE, A. C.: M. Ann. District of Columbia, 1950, **19**, 163.

"It was my good fortune to be his assistant for five years and to get to know him well. His unfailing good humor was ever present and his keen, active mind was a delight to observe. He was always calm and composed, no matter what the situation."

In response, Dr. White, President of the Hospital, demonstrated his "unfailing good humor":

> "No one finds it easy to express adequately his gratitude for such a generous gift as a portrait, and I am deeply appreciative. I shall always regard this portrait from my confreres as a symbol of esteem, good will, and, I have the temerity to add, affection.
>
> "If one has never posed or sat for a portrait, he has missed an unforgettable experience. One is perched on a stand like a witness in court, is requested to keep a fixed gaze on an uninteresting object, assume the posture of an ambassador or a general, and hold an expression of perfect contentment. After several sittings, he is convinced that his hair is getting thinner and grayer, wrinkles are appearing in his face, a dour expression is replacing the jubilant one, and the gallant posture is beginning to slump. However, there is compensation awaiting him in the conviviality of the artist, his facetious comments, his whimsical anecdotes of past patrons, and the magic of his brush, which makes one appear twenty years younger. That, at least, is my experience with [the artist] Mr. Bjorn Egeli."

In dedicating the new addition to Doctors Hospital, the ceremony of which followed the presentation of the portrait, Dr. White said:

"This occasion is unusual in at least one respect—a hospital has built an addition, has assumed a financial obligation, but is not asking for contributions or endowments. This hospital has never sought Federal or civic financial aid, nor has it ever participated in a campaign for funds."

In reviewing the history of the Hospital in which he has played a leading role, Dr. White paid tribute to the late Dr. Oscar B. Hunter for his "indefatigable industry in establishing the financial stability of the institution."

No Washington physician is better known to his fellows than Dr. White. His friends have tremendous respect and admiration for him. Those who see him frequently, marvel at his youthful appearance and physical stamina. With something akin to awe, they relate that his schedule would weary men half his age.

Perhaps Dr. White himself revealed the secret of his vigor when he told your Observer recently that the practice of surgery had always been and still was to him "a great adventure." What makes him especially unique to your Observer are his adaptability to changing times and his deep interest in the future. For one who has been in the practice of medicine for more than half a century, these qualities are priceless, for they make for a rich and fruitful existence.

★

Light Where Heat Prevailed

Three years ago in London your Observer was a guest of the administrator of one of the city's largest and most modern hospitals. Luncheon was served in a room adjacent to the administrator's office. Among the guests were two members of the medical staff and the administrator's assistant.

The administrator was cool, to say the least, until your Observer said that his interest in the until your Observer said that his purpose was to learn how well the British medical system met the needs of the English people and not primarily to seek out its defects. In other words, he hoped to make an objective appraisal of the system to the degree that his knowledge and the time at his disposal permitted. At this his host said, "How interesting! Most American doctors who visit our hospital make it quite clear that they have already made up their minds about our deficiencies and merely want to confirm them." This exchange cleared the atmosphere considerably.

Now this incident came to your Observer's mind during his reading of the report of the AMA's Commission on Medical Care Plans, for this is no run-of-the-mill document. The Commission deals honestly and objectively with the most controversial issues facing the medical profession today. Some of its conclusions will not be palatable to a number of medical men. Whether they agree with them or not, they will have to respect the Commission's courage and integrity. To physicians who have not read the report, let it be said that they should do so without fail. Their reward will be a far better understanding of current medical problems than they now have.

The Commission was appointed by the AMA's Board of Trustees on November 29, 1954, to determine "whether current medical care plans are effectively promoting (1) the highest quality of health services, (2) the welfare of the public and the medical profession, and (3) the ethical standards of the medical profession."

Shortly after it began to function, the Commission was divided into committees and each committee given its assignment. In the 3½ years the committees have been in existence, they have investigated the following areas:

"1. The nature and method of operation of the various types of plans through which persons receive the services of physicians.

2. The effect of these plans on the quality and quantity of medical care provided.

3. The legal and ethical status of the arrangements used by the various plans."

Efforts were also made to determine: "(a) What effect, if any, these plans have on the traditional patient-physician relationship; (b) whether the introduction of a third party in this relationship tends to disturb it and to result in an inferior quality of medical care; (c) whether there are plans in which the participating physician is violating the Principles of Medical Ethics; (d) whether the plans will encourage the corporate practice of medicine, especially by hospitals; and (e) what the proper relationship, if any, should be between the medical profession and all these third-party financial mechanisms."

It is only too apparent from the above, that, as previously suggested, there were controversial issues involved. The Commission recognized this fact but stated it hoped that the report would "be a constructive addition to the many profound observations regarding the patient-physician relationship that previous Houses of Delegates have considered and enunciated."

Space does not permit an exhaustive review of the Commission's report, but an example or two should be sufficient to indicate the objectivity of its approach. For instance, there is the manner in which it deals with the perennial "free choice" issue.

> "Freedom of choice," the Commission states, "means the right of the individual to exercise, without restraint, selection among alternatives. Furthermore, as applied to medical care, an individual should have the right to select a physician of his choice. The medical profession subscribes to, supports, and strives to attain complete acceptance and application of this principle of 'freedom of choice.'
>
> "The medical profession is aware, however, that the principle has been restricted in its application in some situations. Among such instances are the following: by action of law; by social and economic changes leading to new methods of financing the cost of medical care; by action of the profession in establishing systems of staff appointments granting limited privileges; by the rating of physicians for the performance of various types of medical care; by the certification of specialists; by action of hospitals as recognized in the 1947 Report of the Judicial Council which, in part, stated that, 'In order that a high standard of service be maintained, hospitals may limit somewhat the number of physicians who deliver medical services in their institutions and even assign a physician to certain definite fields in accordance with his training and experience.' "

Other examples of actions by the House of Delegates and other AMA bodies are given to illustrate the elasticity of the free choice term. Then the Commission comes to grips with the most explosive issue with which it had to deal, that is, the closed-panel service type of prepayment plan where free choice is limited to those serving on its staff. Contrary to the charges frequently made by medical organizations, the Commission found that, generally speaking, "good medical care is being provided, within the scope of services offered, by the units (of the plans) [the Commission] visited."

The Commission, of course, favors free choice of physicians as it exists in solo practice, but it says that if this system is to be maintained, the people must be assured that the highest quality of medical service is provided. It recommends that "the medical profession should assume a judicious, tolerant and progressive attitude toward developments in the medical care field. The need for continued experimentation is recognized, and the profession should undertake, and actively participate in, the study and development of various mechanisms for the provision of medical care of high quality."

In another portion of the report, the Commission warns against legal booby-traps where medical societies oppose closed-panel types of plans. It points out that these societies, like other associations, are subject to laws prohibiting in one form or another "combinations, conspiracies and contracts in restraint of trade, and monopolies and attempts to monopolize."

"Four court decisions," the Commission states, "demonstrate that any medical society is on dangerous ground if it denies membership to physicians, disciplines members, or threatens to discipline members because they do or would render medical services for a prepaid plan."

Elsewhere in the report reference is made to the "corporate practice of medicine." On this subject the Commission states:

> "As applied to hospitals, many physicians have used the phrase 'corporate practice of medicine' to refer to hospitals hiring physicians to render medical services with the hospital receiving the fees. The committee has interpreted the question, 'Will the plans encourage the corporate practice of medicine, especially by hospitals?' on the assumption that the Commission would like to know whether prepaid plans studied by the committee will encourage the further development of closed panels and the use of employed physicians by plans and hospitals.
>
> "A characteristic of the prepaid direct service plans is the establishment of facilities with closed-panel staffs. In some instances, plans own and operate their own hospitals. In at least one instance, physicians are employed by the hospitals, and in others the financial arrangements are between the physicians and the plan.
>
> "If the provision of medical care by a closed panel of physicians through a third party mechanism is one form of so-called corporate practice, then the successful operation of the plans under study by the committee could well encourage the so-called corporate practice of medicine by hospitals."

These examples should be sufficient to stimulate, to some extent at least, interest in the Commission's report among physicians who have not read the document. Needless to say, it is vitally important that physicians generally understand the problems involved in some of the controversial medical issues of the day.

The Commission's report has not yet been approved by the AMA's House of Delegates. If the preliminary discussion of it at the Minneapolis meeting of the House last December is an indication of what its reception will be in Atlantic City next June, one can be certain that stormy days are ahead.

Upon instruction of the House, state medical societies are being canvassed for their views on the "free choice" and closed-panel issues. It will be interesting to see how they "vote."

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A Floating Medical Center

Described by President Eisenhower as "wonderful" and by a number of others as "imaginative" and "a fine humanitarian undertaking," the HOPE Project of the People-to-People Health Foundation, Inc. promises to win wide public support. To those who are not familiar with this extraordinary undertaking, facts about it will be of considerable interest. The following information is based on descriptive material provided the Society and on an interview with the President of the Foundation, Dr. William B. Walsh. Dr. Walsh is well known to most readers of this column because he is a graduate of Georgetown University School of Medicine (1943) and has practiced in Washington since the close of World War II.

In discussing HOPE with Dr. Walsh, your Observer learned that the project originated in the fall of 1958. At that time, Dr. Walsh was Co-chairman of the People-to-People Committee for Medicine and the Health Professions. This

U S NAVY HOSPITAL SHIP
CONSOLATION

U. S. Navy Hospital Ship *Consolation*

was one of 41 committees of private citizens organized with the view of "including as many phases of life and culture in this country as would be meaningful" to other nations. Committees were organized in the fine arts, sports, and the medical and health professions. Subsequently, each committee incorporated in order to give permanency to its work. The corporation that Dr. Walsh heads became the People-to-People Health Foundation, Inc. The Foundation is "a private, independent, non-profit corporation formed to carry out a program of coöperation in the health field between people in the United States and people in friendly nations."

The People-to-People Program was originally sponsored by President Eisenhower. It was his belief that people-to-people action, as opposed to government action, was a more effective means of strengthening the understanding between our friends overseas and ourselves.

The President has announced that the Navy will release its hospital ship, *Consolation*, now in the "mothball" fleet, for charter by HOPE as soon as financial arrangements for operations are completed. A carefully worked out budget, Dr. Walsh states, indicates the project will cost in the neighborhood of 3½ million dollars to enable it to operate for a year from the scheduled first sailing of the *Consolation* on September 15, 1959.

Success of the project will depend upon donations from individual corporations and foundations. The American Medical Association and several drug manufacturers have made contributions in advance of any public request for funds in order to get it under way. In addition to cash donations, drug manufacturers have indicated they will supply drugs. It is hoped that the fuel required for the ship will be similarly obtained. Gifts of equipment have been promised, and pledges of food have already been made, the most unusual being a carload of Idaho potatoes. However, gifts of supplies required for operations will not notably reduce the 3½ million dollars needed for the project's first year.

Because of the shortness of time, a public campaign for funds cannot be undertaken. The bulk of the required funds for initial operations must come from corporations, foundations, and those individuals who can make substantial contributions. This, according to Dr. Walsh, in no way diminishes the need for small contributions. They will become vitally important, he says, in the long run. He hopes that smaller contributors will respond even though a direct appeal is not made. He has asked the Observer to convey to members of the Society that their contributions will be most welcome, no matter how small they may be.

The *Consolation* will be operated for the Foundation by the American President Lines at cost. Personnel to run the ship will be provided by Lines so that its operation will be in competent hands. It is planned that the ship will go only where it is invited by the medical profession of the country. Its primary purpose, as stated in a brochure provided your Observer, is "to contribute deep and lasting benefits to the nations visited." The plans include a prearranged program in which the medical profession of countries visited and the medical staff of the ship will participate. The ship in effect will be a floating medical center providing an adjunct to the medical training of the physicians in the countries visited. Some of the medical complement of the *Consolation* will go into the country itself, if desired, to assist in the training of technicians such as "inoculationists, X-ray operators, etc., rather than doctors, in order to multiply through the quickest means the effectiveness of medical care."

The "medical school" aspect of the ship will enable the HOPE staff to exchange knowledge by seminar methods with teachers in Far Eastern lands. This will be under the direction of the curriculum committee, of which Dr. Hugh H. Hussey, Dean of Georgetown University School of Medicine and member of the Board of Trustees of AMA, is chairman. The curriculum envisioned is one which will be adaptable to rotating groups of teaching personnel, so that while teachers may change, the same teaching standards will be maintained.

Contemplated is a permanent medical personnel aboard ship of 20 doctors, 2 dentists, and 15 nurses in addition to the required technical staff, such as X-ray technicians, physiotherapists, and the like. All of these will be paid personnel signed up for the first voyage that the *Consolation* will make.

The brochure further states that "One of the most certain paths to world peace today is the enabling of people to help themselves. Hope for a better and happier life is causing the people of many nations to strive for improved standards of living, for greater productivity, for ultimate self-reliance and eventually for true independence. Although fulfillment may be many years away, much can be accomplished now. Standards of living can be improved. Productivity can be increased. As self-reliance mounts in people of underdeveloped nations, they will less and less be dangerous pawns in the conflict of differing political philosophies.

"No country can grow strong without a basically healthy population. No nation can attain leadership if it loses its people soon after they reach a maturity of mind and body. No nation can survive if its population is unable to give a full day's work because of poor health. Recognition that health is essential to the attainment of national dignity is the basis of the program being initiated. . . ."

In discussing his hopes for this project, Dr. Walsh says, "The entire success of this project depends on the coöperation of the American physician. We need his moral backing, we need his participation (this seems assured from the number of applications we are now receiving), and we need his financial support."

★

Perspective on Publicity

Not a few physicians have expressed the opinion that the medical profession never had a lower rating with the public than at present. They ascribe this largely to the adverse publicity currently appearing in newspapers and magazines. Pointedly, and sometimes angrily, they ask why the profession does not have a better press. There is something wrong, they say, and it should be remedied without delay.

These observations are directed to those in the profession who take this view. Let it be said, to begin with, that there has been unnecessarily harsh criticism of the medical profession in the public press, some of it downright unfair. On the other hand, there has often been publicity to cheer about. The question is, which has had the greatest impact on public opinion.

There is ample evidence to support the view that most of the publicity that the medical profession has received in recent years has placed it in a most favorable light. It should be remembered that the cornerstone of the practice of medicine is scientific knowledge. It is this that sets the profession apart in the public mind. It is this that gives the physician standing and prestige with the people. It is in this area that he is receiving decidedly favorable attention in the lay press.

Where current criticism of the profession largely manifests itself is in the socioeconomic area. Few physicians will dispute the fact that there is considerable justification for public concern over the costs of medical care. Unfortunately, the medical profession is often held responsible for conditions over which it has little or no control. There are such factors as hospitalization, nursing, and services of technicians in which its authority is limited. Nevertheless, the physician is a key figure in every area of medical care where the public is concerned and he is held accountable even when it is not justified.

This is something that the medical profession is going to have to live with until prepayment experiments in providing medical care meet the needs and demands of the people and relieve them of burdensome costs. Medical leaders in this field are finding it hard going, but with a few exceptions they are optimistic about the outcome.

These then are the two principal areas in which the medical profession has received the greatest attention publicity-wise. Only a cursory investigation is required to discover that the so-called scientific articles far outnumber those devoted to the general problems of medicine. The reason, an editor of one of the most popular and widely circulated magazines in this country stated not long ago, is that articles pertaining to medicine have far outstripped those on other subjects in reader interest. For the most part, these articles depict the result of research or the development of newer therapy in a variety of diseases. It is here that the box score will demonstrate why doctors head the list in recent opinion polls as members of the most respected professions.

Another facet of this matter is a very human one. How often does a physician overlook so-called favorable publicity whereas what he considers unfavorable is never missed. This happens even when a newspaper gives equal "play" to a story intended to offset an obviously unfavorable one.

Some years ago, a Washington newspaper published on its editorial page a lengthy article describing the efforts of an individual late at night to obtain a physician. Calls to some 20 physicians, it was reported, had proved futile. No mention was made of the fact that if the individual had called the Society's telephone exchange, MEDICAL BUREAU, he would have obtained a physician without delay.

Members of the Society who saw the story—and there were several—wasted no time in insisting that the newspaper be taken to task. Your Observer had already called the editor, who, upon learning the facts, promised to rectify matters in the next issue of the paper. An article of equal prominence to the original appeared on the editorial page the following day describing the services rendered by the BUREAU. Not a single call was received from a physician about this article. Somewhat perturbed, your Observer called a few of those who had objected so strenuously. They said they had not seen it.

Your Observer would be the last to minimize the value of a good press, but he does suggest that the publicity situation be kept in proper perspective. Physicians who are seriously disturbed by critical publicity should, in his opinion, keep a box score. He confidently predicts that they will be much happier if they do.

Let's Look at the Record

One might easily get the impression from reading articles in various lay publications that medical societies have been sitting on their hands where costs of medical care are concerned. Only under pressure of public opinion, it is intimated, have they taken an active interest in the subject.

This may be true of some medical societies, but your Observer ventures the opinion that there are very few which are not endeavoring, with some degree of effectiveness, to deal with the medical cost problem. The fact that Blue Shield Plans exist in nearly every state, most of them medical society-sponsored, is evidence of this fact.

It was this situation which prompted the President of our Medical Society, Dr. W. LeRoy Dunn, to issue the following statement for release to the press on February 23:

"Calls received at the District Medical Society's office from members of the organization indicate their concern over the impression which might have been created by the recent public discussion of the costs of medical care. Many have stated that attention should be called to the Society's efforts in the past several years to ease the financial burden of such care.

"The District Medical Society became actively interested in medical costs more than 25 years ago when it endorsed and participated in the organization of Group Hospitalization, Inc., Washington's Blue Cross Plan. The late Dr. Arthur C. Christie, internationally known radiologist and former President of the Society, provided dynamic leadership in the formation of GHI and deserves considerable credit for its early acceptance by the public and the medical profession. Group Hospitalization, Inc. was successful from the beginning and is now one of the country's outstanding Blue Cross Plans. Some 780,000 individuals now residing in the Washington Metropolitan Area are provided hospital coverage under this Plan.

"Early in 1939 another effort was made by the District Medical Society to lighten the burden of persons of moderate income where their medical costs were concerned. The Society-sponsored plan, known as Mutual Health Service, offered comprehensive coverage at a very nominal monthly rate. Despite considerable investment in time and money, the Service failed after 6 months of operation. Admittedly, it had defects but it did offer to the moderate-income individuals extensive medical service for a very small monthly charge. The Plan's cold reception was a great disappointment to the Society's officials at that time. They could not understand the public's apathy.

"Several years passed before the Society again undertook to develop a prepayment plan. In 1948, Medical Service, Washington's present Blue Shield Plan, came into existence. The Service was developed by the Society's Committee on Medical Care after months of study and negotiations with officials of Group Hospitalization, Inc., who finally agreed that GHI would administer the Plan.

"Medical Service, which began as a limited surgical and obstetrical prepayment plan, has won wide acceptance and at the present time has more than 700,000 participants. In the past 2 years the Plan has been expanded to provide medical services to nearly half of its subscribers. Further steps in this direction are now being taken under the direction of the Board of Trustees of Medical Service. Under consideration, too, is a plan to provide medical care for persons over 65 at reduced premiums and medical fees.

"All of the above have been undertaken under the sponsorship of the District Medical Society. In more recent years the surrounding county medical societies in the Washington Metropolitan Area have joined the Society in advancing the progress of Medical Service.

"The Society's officials are only too aware of the shortcomings of the present Plan but are confident that benefits offered can be greatly expanded in the coming months at a reasonable cost to the subscriber. Certainly the expansion of the Service's coverages will have the support of the Society's membership and, it is confidently hoped, of the public.

"The point I should like emphasized is that the District Medical Society has put forth and will continue to put forth its best efforts to make the costs of medical care less burdensome to the people of the community."

Two Washington newspapers published the above release in part. Historical facts were evidently not considered newsworthy because they were omitted in both papers. Regardless of the omission, the record stands and at some propitious time will again be brought to public attention.

T. W.

Cancer Page

DIAGNOSIS OF CANCER OF THE BREAST

Who can deny that the breast is one of the body's most accessible organs for examination?

With the 5-year survival from breast cancer running 45 to 50 per cent and not improving appreciably from year to year, how can we allow a single breast to remain unpalpated?

A better record in regard to breast cancer is possible with the methods we now have available. As physicians it is our primary responsibility to increase our vigilance and diligence in examining our patients regularly and carefully. It is also our responsibility to teach monthly self-examination of the breast.

The effectiveness of treatment depends on finding the lesion as early as possible. There is a proved relationship between the size of the cancer and the 5-year survival rate.

A few aids in the diagnosis of cancer of the breast may be mentioned. Family history of cancer of the breast is 5 times more frequent in patients with cancer of the breast. A woman with cancer of 1 breast is 5 times more likely to develop cancer in the other breast. No type of nipple discharge is specific for a particular breast lesion. Cancer accounts for approximately 40 per cent of nipple discharges. Nipple smears are helpful in detecting a small but definite number of these. Transillumination, infra-red photography and radiography have met with variable success in different hands.

An analysis of 8,396 cases of cancer of the breast in Connecticut, including the years 1935 through 1953, should encourage the optimism and determination we need to improve the outlook in Washington. During this period the 5-year survival rose from 46.3 to 51 per cent.

Finally, to help demonstrate the effectiveness of concentrated effort on this problem, it is urged that careful reports on malignancy be made to the District Health Department, Cancer Records Registry. This is now a reportable disease.

RESEARCH

EDUCATION

SERVICE

AMERICAN
CANCER
SOCIETY

The American Cancer Society offers physicians 2 valuable aids for encouraging women to carry out monthly breast self-examination. A film titled "Breast Self Examination" is available for showing to any group, and physicians are urged to tell women to call the local Cancer Society for information about showings. Leaflets describing a simple method of breast self-examination also are available for distribution. Call the Cancer Society, Executive 3-3690, to obtain a supply for your patients.

April is **Cancer Control Month.** Give generously to your Cancer Crusader.

PHYSICAL MEDICINE CONGRESS IN WASHINGTON IN 1960

The Third International Congress of Physical Medicine is scheduled to be held in Washington, D. C., at the Mayflower Hotel, August 21–26, 1960. This is the first meeting of this Congress in the United States. The other two were held in London in 1952 and in Copenhagen in 1956.

Papers will be presented by experts in all fields of medicine and surgery together with other aspects of rehabilitation, such as social, educational and vocational. Delegates from 30 countries will represent their respective scientific organizations. Those in attendance from the United States will represent private and Governmental facilities, agencies, and services, and local, state and national medical societies.

In connection with this assembly there will be exhibits from many countries, both scientific and technical. To stimulate interest, an award will be given for the best scientific exhibit. A film theater will be maintained and films on physical medicine and rehabilitation from many countries are planned. To encourage new and better films in education, an award will also be given for the best film.

Topics for discussion in the scientific sessions will be diseases of skeletal muscle; arthritis, all types; neuromuscular diseases; aftercare of acute trauma to neuromuscular and musculoskeletal systems; congenital defects causing physical disabilities; scoliosis; and aftercare of amputations.

The proceedings of the Congress will be published and distributed not only to participants but to other workers in the fields of physical medicine and rehabilitation.

Dr. Charles S. Wise, of George Washington University, Drs. Charles D. Shields and Margaret M. Kenrick, of Georgetown, and Dr. A. B. C. Knudson, of Veterans Administration, are serving on local social and reception committees. Dr. Wise is also assisting Dr. Donald A. Covalt, of New York, who is Chairman of the Scientific Exhibit Committee.

Complete information concerning this international meeting may be secured by writing to Dr. Walter J. Zeiter, Secretary-General, or Dorothea C. Augustin, Executive Secretary, Third International Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Ill.

EVALUATION OF MITOMYCIN C FOR CANCER

The Cancer Chemotherapy National Service Center reported today that mitomycin C, an antibiotic reported as giving promising results in cancer treatment in Japan, has frequently produced major toxic reactions but seldom objective improvement in clinical trials in the United States.

The antibiotic has been under pilot clinical evaluation in this country as an anti-tumor agent in a substantial variety of tumors. In view of the effects observed in three current studies, it has not so far replaced the standard chemotherapeutic agents in any form of cancer, the announcement said. Full reports on the clinical trials will appear later in the scientific literature. Meanwhile, studies of the drug are being continued.

Japanese experience in treating human cancer with mitomycin C was reported at a Symposium on Antibiotics in Washington, D. C., October 16, 1958. A limited quantity for clinical trials in this country was produced by Bristol Laboratories for the Cancer Chemotherapy National Service Center.

STATEMENT ON TRANSFUSION OF SICKLE-CELL-TRAIT BLOOD

The Subcommittee on Transfusion Problems of the Division of Medical Sciences, National Academy of Sciences—National Research Council, in its meeting on October 17, 1958, reviewed the currently available information concerning sickle-cell hemoglobin in relation to blood transfusion.

It was concluded that, according to all data now available, there is no recognized hazard from the random inclusion in routine transfusion services of blood from sickle-cell-trait donors. Also, since sickle-cell hemoglobin occurs as a hereditary abnormality, transmission of the disease can never be effected by transfusion. Thus, no scientific basis was found for the segregation of blood from persons having sickle-cell-trait.

WASHINGTON MEDICAL INSTITUTIONS

I. WALTER REED ARMY MEDICAL CENTER*

A Long Road Northward!

HERBERT P. RAMSEY, M.D., F.A.C.S., F.I.C.S.

Washington

This is a story of a lengthy thoroughfare—a very long street and road; it is the story of great needs and their fulfillment; it is the story of a persistent and knowledgeable gentleman.

From South to North

You might say the road started at Greenleaf Point in the old Arsenal (in 1881 renamed the "Washington Barracks" but now called "Fort McNair"). This was a busy 44 acres in the time of the Civil War as an ordnance and supply depot, but it had been used as a fort since 1797. And the road went from this post via P Street, S.W., northward through "Water" Street (now Maine Avenue) and 7th Street to the "Boundary" or "Boundary Street," which still bore that name as late as 1891, although it later became what it is now, Florida Avenue; and from this point it continued on northward as the Seventh Street Turnpike to the District of Columbia Line, which it intersected just about 1 mile southeast of the northernmost point of the District. The Washington and Rockville Turnpike Company had built the Maryland part of this highway which ultimately trended toward Rockville, and by 1822 the "Seventh Street Road" was an important though narrow thoroughfare.

The District of Columbia portion of this road was 8 miles long, the northern 4.6 miles of which, north of Boundary Street (or Florida Avenue), was chiefly rural as late as 1900—passing through the hamlet of Brightwood, 1½ miles south of the District Line, where there had once been a tollgate. While the natives still called it the Seventh Street Road, in the late 19th century this 4.6-mile stretch was officially renamed Brightwood Avenue, but in 1909 this name succumbed to the attack of an "irate Senator from Georgia" and has ever since been "Georgia Avenue."

Our lens focuses first on the southern end, the Washington Barracks, where the post hospital became, in 1898, an Army General Hospital, a distinction which placed it under the authority of the Surgeon General instead of under the post's military commander. In that year there came to it on October 10, as its first Commandant, a surgeon, Major William Cline Borden, with 15 years of Army experience, who was later to become Professor of Surgery and Dean of the George Washington University Medical School (my dean). Over 200 patients were in the hospital building and in tents pitched nearby.

Borden and Reed

Here Major Borden was to come into intimate contact with the first Secretary of the Army Medical School and its Professor of Bacteriology (since 1893), Captain (later Major, 1898) Walter Reed. Captain

National Archives

Army General Hospital, Washington Barracks; commanded by Major William Cline Borden, 1898–1907.

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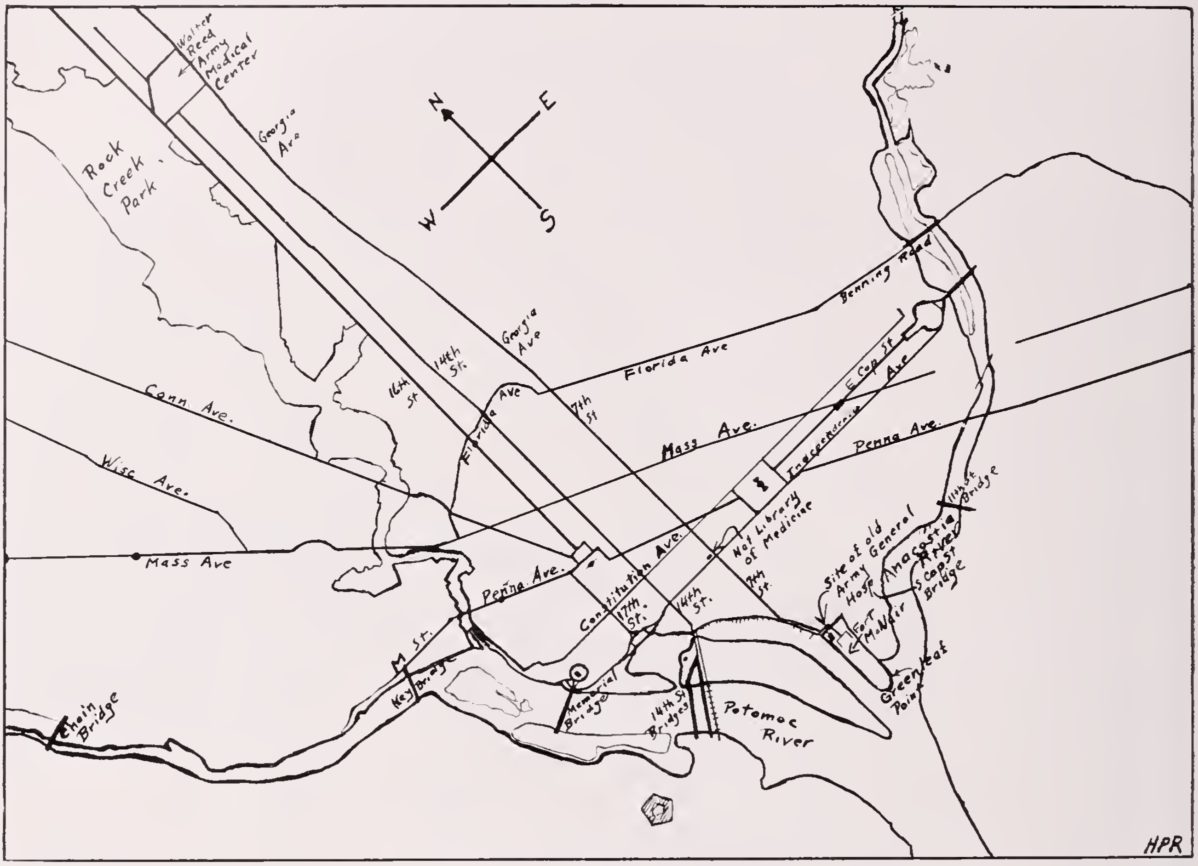
* This is the first of a series of historical accounts of medical institutions in the Washington Metropolitan Area. The next will appear in an early issue of the Medical Annals.


Walter Reed Army Medical Center
Georgia Ave
Rock Creek Park
N
E
W
S
Benning Road
E Cap St
Ave
Florida Ave
Georgia Ave
14th St.
16th St
7th St
Conn Ave.
Wisc Ave.
Mass Ave
Mass Ave.
Independence Ave
Penna Ave.
Nat Library of Medicine
Florida Ave
Penna Ave.
Constitution Ave.
17th St.
14th St.
7th St.
M St.
Key Bridge
Memorial Bridge
14th St Bridges
Potomac River
Chain Bridge
Site of old Army General Hosp
Fort McNair
Anacostia River
11th St Bridge
S Cap St Bridge
Greenleaf Point
HPR

From Washington Barracks to Walter Reed Army Medical Center

Reed was Assistant Surgeon, U.S.A, and was curator of pathology at the Army Medical Museum. Major Borden was appointed Professor of Military Surgery when the Army Medical School first re-opened in 1901 after the Spanish-American War. These two professors were busy men in 1901 and 1902, "for, in addition to their other duties, they were lecturing at Columbian Medical College" (George Washington University Medical School). Major Reed and his family lived at 1603 19th Street, N.W., while Major Borden's "family was quartered in the large brick dwelling that had formerly housed Mrs. Surratt prior to her trial and execution. . . ."

In 1898 and 1899, as chairman of the "Reed-Vaughan-Shakespeare" Typhoid Fever Board, Walter Reed had headed a significant study of the origin and spread of typhoid fever. Before this was completed, in 1899 Major Reed had commenced his epochal contribution to the knowledge of the mosquito-borne nature of yellow fever. However, he himself was not a well man from 1900 on; by the autumn of 1902 he was, in his own words, "a very sick man." On November 12 he was confined to bed; on the 14th he consulted Major Borden; on the 17th operation at the Army General Hospital at Washington Barracks for a ruptured appendix with gangrenous cecum was followed by slight improvement. Dr. Charles S. White, Senior, administered the anesthesia. Dr. Wallace Neff, who witnessed the operation, said "the case was grave and that it had been handled with consummate skill by Dr. Borden." On November 19, 1902 Major Borden made a case report on this to the Medical Society of the District of Columbia. Walter Reed's untimely death on November 23, at the age of 51, was shocking, not only to his surgeon, who had never lost an appendix case, but to the medical profession of the entire world. He has been memorialized in many ways, but none could have been more fitting than the subject of this sketch.

The recorded history of the idea of an Army general hospital in Washington, combined with a medical museum, a medical library, and a graduate medical school, starts with the ill-starred Brigadier General William Alexander Hammond, Surgeon General of the Army, April 25, 1862 until August 18, 1864, when he was courtmartialed and dismissed from the Army.

Of this four-fold idea, a small Surgeon General's Library had been in existence since 1836, and the Army Medical Museum was created by Dr. Hammond in 1862; but the Army Medical School was not begun until 1893 under Surgeon General George M. Sternberg. The inadequate Army General Hospital in Washington Barracks was created from a post hospital on September 8, 1898. The concentration of these elements in one area has evolved into what is now called the Walter Reed Army Medical Center.

The needs were many: special postgraduate training for physicians working in, or for the Army; an adequate and ever-growing medical library; laboratories for testing and research; and a general Army hospital in Washington with a staff sufficiently specialized to give care beyond the average to its patients. Although Major Borden was annoyed by the continuous friction and clashes with "line" authority at the Washington Barracks, he was more oppressed at the insufficiency of quarters and facilities at his Army General Hospital; there were steadily increasing admissions and surgery but there was little hope of larger accommodations.

"BORDEN'S DREAM"

Borden was a well-read, cultured, shrewd, and persistent gentleman. That the Walter Reed Center came into being is more credited to him than to any other one man. "Colonel William C. Borden, now retired, must always be remembered as the man who put through the Walter Reed Hospital," said Lieutenant Colonel Mahlon Ashford in 1929. His efforts were so indefatigable that the project was known to his contemporaries as "Borden's dream." For 6 years he pressured the Surgeon General, he needled his associates, he advised with architects, he haunted Congress, he arrested the attention of cabinet members and presidents, until at last in 1905 Congress authorized $100,000 for the site and $200,000 for building a general hospital.

We turn our attention now to the northerly part of "the long road." The Beall tract, known as Norway, and the Lay farm and the Shepherd farm, with its "Bleak House," lay along the west side of the macadamized Brightwood Avenue, and the Norway tract was opposite the "Battle Cemetery," grim sequel of the attack of General Jubal Early's troops on that hot July 12. 1864. Cameron Creek cut across the turnpike in a deep ravine ½ mile north of Fort Stevens and continued southwestward across the Lay farm toward its confluence with Rock Creek at Military Road.

MAJOR WALTER REED

From a paper read by Major Borden before the Medical Society, October 3, 1906, the following is quoted:

> "The location of a new general hospital to be built in the District to replace the old one at Washington Barracks required careful selection. A board was appointed by the Secretary of War, of which the writer was a

member, and notice was sent to all the prominent real estate men in the city to submit plots of ground. Some forty different offers were made, and the board in its work canvassed the entire District. In locating the site the board was governed by the considerations that although the hospital was not a city hospital it should be located within convenient reach of the main railroad depot, on a good road, and should have street-car facilities, adjacent water main and sewer; also the site should be well elevated, well drained, and have sufficient size to give good air space about the hospital and to allow the erection of other buildings which would eventually be required. Equally, the site should be sufficiently large to allow the erection of numerous temporary pavilion wards for use in time of war. With these various considerations in view the board finally recommended the purchase of 43½ acres of ground, fronting on Brightwood Avenue, and extending through west nearly to Fourteenth Street.

Very truly Yours
W. C. Borden

U.S. Army Photograph

LT. COLONEL WILLIAM CLINE BORDEN

"The site is therefore in the most northerly portion of the District, and is almost exactly five miles distant from the Treasury, the Capitol and the new Union Depot. Street-car facilities are now furnished by the Brightwood Avenue line, and when the Fourteenth Street line is extended, as it will be, to the District boundary, the site will be most convenient to this car line as well. In time of peace the Brightwood Avenue road, which is finely macadamized, affords an excellent way in which to bring patients from the railroad terminal. In time of war, if necessary, direct railroad communication can be made with the Metropolitan branch of the B. & O., as this passes within about a quarter of a mile to the east, and a branch road could be run into the grounds without difficulty; or Silver Spring station, which is less than half a mile away, can be utilized. From Fourteenth to Sixteenth Street in this part of the District is but one block, and on the west of Sixteenth Street is Rock Creek Park with its high ridges, where temporary camps can be placed if such are required.

"The hospital site was formerly farm land with a lone frame farmhouse occupying a commanding position on the knoll of land marking the present location of the administration building. The terrain of the site is itself most excellent, for while the site is not level, it consists practically of five main elevations upon which the different groups of buildings can be advantageously placed, and the slopes from these are such that perfect surface drainage is assured. Probably in no other part of the District could so many advantageous conditions be found, and when Fourteenth and Sixteenth Streets are extended these fine approaches will be available on the west, putting the hospital in most perfect communication, so far as fine roads are concerned, with the central portions of the city.

". . . Lighting will be mainly by electricity. . . . "

The original "Norway tract" purchase of 43½ acres was effected, May 20, 1905. Building No. 1, "Old Main," was built in December 1908; two double sets of sergeants' quarters, Building No. 2, in April 1908; and Building No. 3 in March 1909. With these structures, and with Company "C" living in tents on the ridge to the west, the Hospital was opened, May 1, 1909. Built for 65 patients on its 3 floors, with a top capacity of 80, it was staffed with 5 medical officers, 62 corpsmen, and 3 civilians. "At the end of the first 30-day accounting-period," treatment had been received by 5 officers, 11 enlisted men, 2 retired enlisted men, and 1 civilian.

GROWTH OF THE MEDICAL CENTER

But it grew and it grew. Land was added from time to time, and since September 1, 1923 the tract has embraced the entire area bounded by 16th Street, Alaska Avenue, Fern Street, Georgia Avenue, and Aspen Street (113 acres), but 13th and 14th

Streets were never to be extended as thoroughfares through the reservation.

I shall mention only a few highlights from here on. Like Moses on Mount Nebo, Major Borden was to see but not to enter the promised land, at least not as commandant, which must have been his natural ambition. On duty in Washington since 1898, he received orders of April 1, 1907, relieving him of duty at the Washington Barracks to depart for Manila on expiration of his leave, June 15, 1907. The *Evening Star* said that "the officer of the Medical Department detailed to relieve Major Borden will have charge of the hospital when it is completed." In 1908, upon returning to meet the promotion board, Borden suffered a coronary attack and was retired for disability with the rank of Lieutenant Colonel, at the age of 50, after 25 years' service in the Army. However, he did return to Walter Reed on active duty in World War I, serving as Chief of Surgery, June 6, 1917, to January 7, 1919.

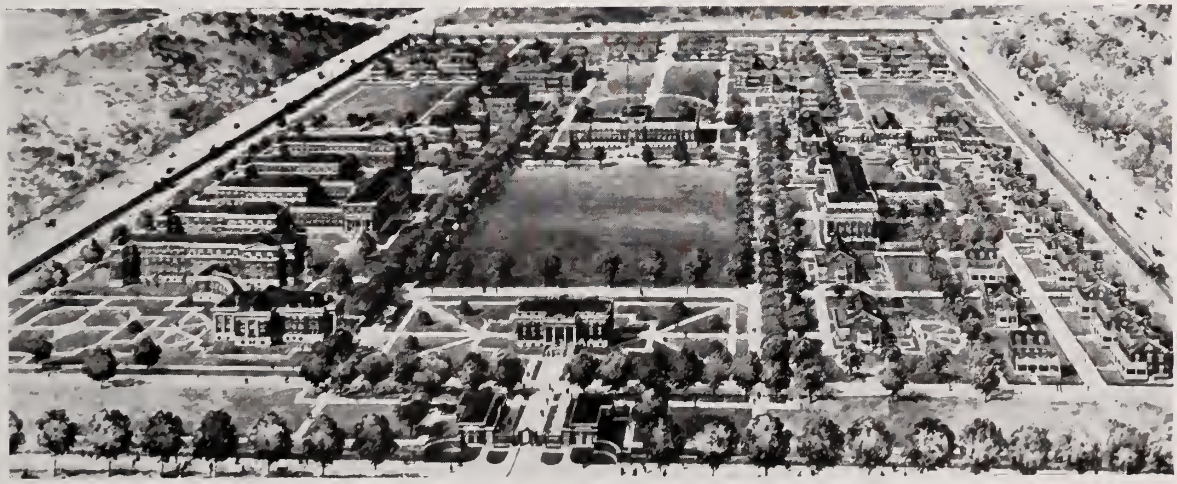
With steadily increasing case load, more buildings, more land, and more functions, the Walter Reed General Hospital received the full impact of World War I, when its bed capacity was temporarily increased to 2,500. In that war the largest annual number of inpatients was 13,752, admitted in 1918. In World War II the largest year was 1943, in which 18,046 patients were admitted.

Retracing our steps back down Seventh Street to the corner of B Street, Southwest (now called Independence Avenue), we sight the venerable old brick structure (built in 1887) which housed the Army Medical Museum, and since 1888, the Surgeon General's Library. The Army Medical School was located in this building, but when it outgrew its quarters here it moved in 1910 to a rented building, the Builders' Exchange, at 721 13th Street, N.W., and again in 1916 to the Fendall Building, 504 Louisiana (now Indiana) Avenue, N.W.

With the opening of the more modern Army Medical School building, west of the Hospital, September 1, 1923, a new phase was realized, and the post became known as the Army Medical Center. The Veterinary School was transferred to it from Chicago and the Dental and Nursing Schools transferred from Hospital jurisdiction. In 1935 the command post flagpole was removed to the School front from in front of the Hospital, where it was succeeded in 1936 by the John Van Rensselaer Hoff Memorial Fountain.

Successively, the old names gave way to newer titles; at the time of the move in 1923, the "Army Medical School" became the "Medical Department Professional Service Schools"; in 1947 it was designated the "Army Medical Department Research and Graduate School"; in 1950 this was shortened to "Army Medical Service Graduate School," and in 1955 to the "Walter Reed Army Institute of Research."

The Walter Reed Army Institute of Research



Original plan of the PROPOSED ARMY MEDICAL CENTER submitted by Major William Cline Borden 53 years ago (1906). The plan includes the Walter Reed General Hospital, Army Medical School, Army Medical Museum, Administration Office, Officers Quarters, Hospital Corps Unit, Gymnasium, Central Heating Plant, etc.

plans, conducts, and coördinates research and development programs assigned by the Office of the Surgeon General.

In 1944 the Center temporarily acquired the former Civilian Conservation Corps camp at Beltsville, Maryland, Camp Ord. This was used until March 7, 1945, as a final rehabilitation center for patients scheduled to return to full active duty.

On September 13, 1951, the 100th anniversary of Walter Reed's birth, the entire center was officially renamed "Walter Reed Army Medical Center," and on July 1, 1955 it became a Class III installation under the jurisdiction of the Office of the Surgeon General, U. S. Army.

The long looked-for removal of the Army Medical Museum (later the "Army Institute of Pathology") took place in 1955. The organization left "B Street" (Independence Avenue) and trekked northward to the Center, where as the "unified" Armed Forces Institute of Pathology it occupies a magnificent and ultramodern structure built for it in the western part of the Headquarters Section.

In Maryland, about ½ mile to the west of the "Seventh Street Road," lies Forest Glen, where in 1942, under the pressure of mounting casualties of war, the Army purchased the 188 acres and 70 buildings of the National Park Seminary. These were then adapted for use as a convalescent hospital for ambulatory patients, and over 6,200 admissions have occurred within a single year.

In this Forest Glen Section are also the Army Audiology and Speech Center, an Army Physical Evaluation Board, an Air Force Evaluation Board, the Army Prosthetics Research Laboratory, and the pilot project school for practical nurses.

Near this section is the "Glenhaven Section," a 25-acre plot having 70 individual residences for noncommissioned officers and their families. This was acquired, September 1, 1947.

How may one in a sketch like this mention the manifold scientific advances and accomplishments emanating from this Center and its components throughout these years. These notable achievements were outstanding, but so numerous that it may only be mentioned here that they were in the fields of epidemiology, immunology, surgery, hygiene, public health, dentistry, tropical medicine, radiation and radioactivity, and the like. Furthermore, the list of famous names producing these advances is so long that some important ones would inevitably be omitted.

THE MEDICAL CENTER TODAY

Under the Headquarters of the Walter Reed Army Medical Center there are now 4 main components: Walter Reed Army Hospital, Walter Reed Army Institute of Research, Central Dental Laboratory, and the Army Prosthetics Research Laboratory. The Armed Forces Institute of Pathology gets administrative and logistic support from Headquarters. Other activities not mentioned elsewhere are the Ocular Research Unit and the Medical Research Unit Malaya, the Television Division, the McCook Memorial Chapel, the American Red Cross House, the many resident training programs in the Hospital, and graduate training for nurses.

The Walter Reed of today includes in its 3 areas

Armed Forces Medical Library

WALTER REED GENERAL HOSPITAL and other buildings (about 1914)

Walter Reed General Hospital (1944) showing Hoff Memorial Fountain

320 acres of land. There are 311 buildings. The bed capacity is 1,250, but in March, 1959 the inpatient census was 1,500. Trivial statistics which bear on the magnitude of the operations show 9 miles of corridors washed and waxed daily, 25 miles of streets and walks, 40,000 withdrawals from the Library per annum, and each year 7,000,000 pounds of laundry processed.

Since the opening of the hospital in 1909 nearly 460,000 inpatients have been admitted. No year since 1942 have there been less than 10,000 admissions. In 1958 there were 14,620 inpatients and 462,331 outpatient visits. On January 31, 1959 the hospital staff numbered 1,879—1,005 military and 874 civilian; there were 72 physicians, including 17 civilians.

As one visits this magnificent Center honoring the heroic Walter Reed, sees all its component parts, reviews its manifold functions—healing the sick, teaching the art, research for the future—the satisfactions experienced must engender the most profound gratitude to the ghosts of countless medical men of vision who labored to bring these things to pass.

Nevertheless, the long transit northward on 7th Street from Greenleaf Point and B Street, S.W. to the Norway tract must be credited, most of all, to the foresight and perseverance of William Cline Borden.

REFERENCES

Wash. M. Ann., 1902, vol. 1; 1906, vol. 5.

Hume, E. E.: Victories of Army Medicine. Philadelphia: Lippincott, 1943.

Adams, G. W.: Doctors in Blue. New York: Schuman, 1952.

Borden, D. L.: William Cline Borden, 1858–1934. M. Ann. District of Columbia, 1936, **5**, 269 and 310.

Standlee, M. W.: Borden's Dream, The Walter Reed Army Medical Center in Washington, D. C. (mss. completed in 1951).

Public Information Office, Walter Reed Army Medical Center.

Historical Unit, U. S. Army Medical Service.

On the Lighter Side

April is the best month for small craft owners to get the old tub shipshape and ready for the waves. March is much too windy and the weather too changeable to get everything done that has to be done. May, on the other hand, is ideal—but not for working every week end cleaning, painting, and varnishing the boat. May is the best month for enjoying your boat on the briny. Therefore, April is the month to get things done boatwise.

Every boatowner has a little something unusual about his make-up and personality. Everyone can't be a boatowner! You must have that insatiable inner yearning for the open water; you must have boundless energy and the will to keep a boat seaworthy; and you must have that incurable desire to own a "little bigger boat" than what you have already.

Today there are more boatowners than we dreamed there would be a few short 10 years ago. The sale of boats has reached tremendous volume, and even the auto dealers are stocking and selling boats as a sideline. This year many more "lookers" will become "buyers," and for those who haven't owned a boat the question will be, "What kind of a boat should I buy?"

The choice of the hull's material is exceedingly important in selecting a boat. Today the boat buyer has a much greater choice of hull materials than ever before. Solid wood, plywood, molded plywood, steel, aluminum, fiberglass, and the composite types are available.

Solid wood has been a long time favorite. The experts say that properly seasoned white oak is best for the frame; Honduras mahogany and cedar are best for planking; and spruce and teakwood best for the deck. Fastenings should be of copper, bronze or monel metal.

Plywood boats have the advantage of low first cost and light weight, but be sure that the joints are absolutely watertight.

Metal boats end all worries about dry rot and shipworms, caulking and sprung seams. However, steel must be sprayed with hot zinc or coated with plastic to keep it from rusting, and the welding and riveting must be expertly done. Aluminum has the advantage of being lighter than steel but must be made of the corrosion-resistant marine alloy for salt water use. The metal seats have the disadvantage of reflecting the weather. If it's hot the seats are hotter; it it's cold you feel as though you have been frostbitten on the bottom.

Fiberglass seems to be the most popular hull material at present; however, this material cannot withstand too much flexing; therefore, make sure that the framing material is rigid. Fiberglass is easier to maintain and repair than a wooden planked boat.

Boats may be purchased with inboard or outboard motors and of any of the above hull materials. Now the dealers are offering package deals of a boat, an outboard motor, and a boat trailer for a given price.

A few helpful hints for the neophyte boatowner: Don't anchor a small outboard motorboat by the stern if you want to stay dry. Always carry an anchor line that is equal in length to 5 times the depth of the deepest fishing hole where you plan to anchor. And follow the gulls if you are fishing on the Bay, because where the seagulls are swirling, screaming and diving close to the water there you will find the fish.

New boatowner is Dr. James C. Waters, with a 30-foot Egg Harbor, appropriately named *The Hel-Kel* after the pretty Mrs. Helen Waters and Kelly himself.

* * * * *

Chuckle note: Girl at perfume counter: "Do you have something that will bring out the mink in a man without disturbing the wolf?" . . . No formal dinner is complete without nuts. Always invite a few. . . . Man's idea of a hot time is to run across an old flame and have money to burn. . . . Sympathy is what one girl offers another in exchange for the lurid details.

J. Earl Kadan, M.D.

News and Personals

MEETINGS

The American Society of Clinical Hypnosis, Washington-Baltimore Sections, will meet in the D. C. Medical Society's auditorium on April 25, 1959, at 8:30 p.m. Guest speaker will be Dr. Milton H. Erickson, of Phoenix, Arizona, who has long been one of the leaders of medical hypnosis. He was the first President of the American Society of Clinical Hypnosis and is the editor of the *American Journal of Clinical Hypnosis.*

A Seminar on Endocrine Tumors will be conducted at the Clinical Center, National Institutes of Health, Bethesda, Md., on Saturday, May 2, 1959, at 2:00 p.m., in conjunction with the joint meeting of the Washington Society of Pathologists, the Pathology Section of the Baltimore City Medical Society, and the Middle Eastern Region of the College of American Pathologists.

The Seminar has been arranged by Dr. G. H. Klinck, Chief of the Endocrine Pathology Branch, Armed Forces Institute of Pathology. Dr. Laurence H. Kyle, Professor and Chairman of the Department of Medicine, Georgetown University School of Medicine, will lead the clinical discussion, and Dr. Gert L. Laqueur, of the National Institutes of Health, the pathologic discussion.

Seminar histologic slide sets on endocrine tumors may be ordered at $6.00 per set. Check or money order should be made payable to the Washington Society of Pathologists, Inc., and mailed to Mrs. Catherine V. Porter, Laboratory of Pathology, National Cancer Institute, Clinical Center, Rm. 2-A-29, Bethesda, Md.

A Symposium on Clinical Medicine will be held at the Statler Hilton Hotel, May 7, 1959, under the sponsorship of 3 medical organizations, the District of Columbia Chapter of the American Academy of General Practice, the Maryland Academy of General Practice, and the Washington Branch of the American Medical Women's Association.

The program is still not complete; the following topics and speakers have been tentatively scheduled:

"What Medical Science Is Doing About the Aging," Dr. Edward L. Bortz, Philadelphia

"A Practical Approach to Gynecologic Problems," Dr. Isadore Dyer, New Orleans

"Collagen Disease—The Overlooked Diagnosis," Dr. Edmund L. Dubois, Beverly Hills, Calif.

"Infrequently Recognized Diseases in Childhood," Dr. Carl C. Fischer, Philadelphia

"Broad Spectrum Antibiotics after Ten Years," Dr. Harry F. Dowling, Chicago

"The Malabsorption Syndromes," Dr. Michael J. Lepore, New York.

Coöperating in plans for the Symposium are Dr. Maurice van Kinsbergen, President, and Dr. Lewis A. Klein, Program Chairman, of the D.C. Chapter of AAGP; Dr. Claudine M. Gay, of the American Medical Women's Association; and Dr. Samuel Allen, of the Maryland Academy of General Practice. Dr. I. Phillips Frohman is in charge of publicity.

A Symposium on Heart Disease, sponsored by the Medical Advisory Committee of the Montgomery County Tuberculosis and Heart Association, will be held on Thursday, May 21, 1959. The Symposium will be an all-day session, from 9:00 a.m. to 4:45 p.m., and will be held in the auditorium of the National Institutes of Health in Bethesda, Md.

More than 14 speakers from Johns Hopkins, Maryland, George Washington, and Georgetown Universities, and from the National Institutes of Health, will take part. Among the subjects will be: The Diagnosis and Management of Subacute Endocarditis, The Treatment of Cardiac Arrhythmias, The Use of the Newer Diuretic Agents, a group of related papers on Hypertension, and a Panel on Atherosclerosis.

A complete program and registration information will be mailed to doctors in the Washington area.

GENERAL NEWS

Dr. Preston A. McLendon, Chairman, presided at the meeting of the **Executive Board of the Medical Society of the District of Columbia,** February 23. Read at the meeting was a letter from Mr. Leonard S. Homa, Executive Secretary of the Committee on Employment of the Physically Handicapped, in which he notified the Secretary of the Society that Dr. McLendon had been recommended to receive the 1958 Physician's Award. The Secretary suggested that this be presented to Dr. McLendon at the next special business meeting of the Society.

Mr. Walter H. McCartha, Chairman of the Joint Board on Science Education for the Greater Washington Area, in a communication to the Society, stated that his organization would appreciate a contribution again this year to a fund to be used to further its program, which includes aid to science fairs, speakers for science groups, and career counselling. The Board voted to contribute $100 again for this purpose.

President Dunn, in accord with the authorization given him at the last meeting of the Board, stated that he had requested the three medical schools to submit appointees to the revived **Committee on Postgraduate Education.** They are: Drs. Alvin E. Parrish and Seymour Alpert (George Washington); Drs. Howard S. Madigan and Roy E. Ritts, Jr. (Georgetown); and Drs. Paul B. Cornely and Edward W. Hawthorne (Howard).

DR. DUNN AND DR. JARMAN

DR. W. DABNEY JARMAN (right), Chairman of the Medical Society's Program Committee, carried the main responsibility for the program on "Clinical Disorders of Respiration and Circulation" which made the EIGHTH MIDWINTER SEMINAR another successful event. DR. W. LEROY DUNN (left), President of the Medical Society, opened the meeting, Tuesday evening, with some pertinent remarks.

ALVAN L. BARACH, M.D.

DR. BARACH was moderator for all three sessions of the EIGHTH MIDWINTER SEMINAR, held in the Medical Society's building, February 24, 25 and 26. He is Clinical Professor of Medicine of the College of Physicians and Surgeons, Columbia University.

The National Foundation announces postdoctoral research fellowships in preparation for careers in research and/or academic medicine. These fellowships are open to physicians or persons having a Ph.D. degree or equivalent. The annual stipends vary from $3,900 to $6,000, depending on experience, marital status, and number of dependents.

Fellowships are also available in the clinical fields of preventive medicine, orthopedics, and rehabilitation. The annual stipends for the first two vary from $4,500 to $6,000, depending upon experience, marital status, and number of dependents; the stipend in the field of rehabilitation varies from $300 to $350 per month, depending upon marital status.

Applications for fellowships must be received by

September 1, 1959 for consideration in November, and by December 1 for consideration in February, 1960. Application forms may be secured from the Chief, Division of Scholarships and Fellowships, Department of Professional Education, The National Foundation, 800 Second Avenue, New York 17, N.Y.

The postdoctoral fellowships include a compensation to the institution of $1,250 annually for the support of the fellow's program, including tuition and fees.

DR. MARVIN AND DR. SNYDER HONORED AT ALUMNI BANQUET

At the George Washington University Medical Society Banquet, February 21, at the Shoreham Hotel, Dr. Cloyd H. Marvin (left), President Emeritus of the University, was cited by the General Alumni Association in recognition of his 31 years of service as President. Dr. Luther H. Snyder (next to Dr. Marvin) received the 1959 Award of Merit of the GWU Medical Society from Dr. Helen Gladys Kain (above), President of the Society. To the right is Mr. Arthur S. Flemming, Secretary of Health, Education and Welfare, guest speaker at the banquet.

The George Washington University Medical Society was host to other alumni organizations of the University at its Annual Banquet, February 21, at the Shoreham Hotel. Presiding at the meeting was Dr. Helen Gladys Kain, President of the Society. The guest speaker was the Honorable Arthur S. Flemming, Secretary of Health, Education and Welfare.

Three citations were presented on this occasion. **President Emeritus Cloyd H. Marvin** was recognized for his outstanding leadership in education during his 31 years' service as University President. The citation, in behalf of the General Alumni Association, was presented to him by Mr. Otto W. Schoenfelder, President of the Association.

The Annual Award of Merit of the George Washington Medical Society went to **Dr. Luther H. Snyder,** specialist in internal medicine. Dr. Snyder is an alumnus (1935) of George Washington University School of Medicine. He is on the faculty as Associate in Medicine at the present time. He was formerly President of the George Washington Medical Society and Vice President of the General Alumni Association. The citation recognized particularly his devotion to the welfare and interests of the Medical School as well as to its Medical Society.

The third honoree was **Dr. William Ross Morris,** formerly President of the Medical Society of D. C. Dr. Morris was recognized for his 25 years' service as teacher in the Medical School. He is presently Associate in Surgery.

The American Academy of Arts and Sciences is offering three prizes of $1,000 each annually to the authors of especially meritorious unpublished monographs in the fields of the humanities, social sciences, and physical and biological sciences. Recipients of the prizes will be expected to make their own arrangements for publication. The final date this year for receipt of manuscripts by the Committee on Awards is October 1, 1959. Announcement of the awards will be made in December. Full details concerning these prizes may be secured from the Committee on Monograph Prizes, American Academy of Arts and Sciences, 280 Newton Street, Brookline Station, Boston 46, Massachusetts.

The tenth annual publication of "**Reviews of Medical Motion Pictures**" is now available from the film library of the American Medical Association. It contains reprints of all reviews published in *The Journal of the AMA* during 1958.

The Section on Pediatrics of the D.C. Medical Society elected new officers at a meeting at Children's Hospital, March 11. They are:

Dr. Richard H. Todd, *Chairman*; Dr. Harold M. Hobart, *Vice Chairman*; and Dr. Sanford L. Leikin, *Secretary-Treasurer*.

The appointment of **Richard M. Loughery** as **Administrator of the Washington Hospital Center** has been announced by the Board of Trustees and became effective March 1. He succeeds Dr. Warwick T. Brown, the Center's first Administrator.

RICHARD H. LOUGHERY
Administrator, Washington Hospital Center

Mr. Loughery was associated with Garfield Memorial Hospital for 5 years, first as Assistant Administrator and later, Administrator. He was active in the task of merging Garfield, Episcopal and Emergency Hospitals into the new Center, which has now been in operation a year.

Mr. Loughery holds a Bachelor of Arts Degree from Indiana University. During World War II he served with the U. S. Marine Corps for 42 months, separating in 1946 with the rank of Captain. He was trained in hospital administration at Methodist Hospital, Indianapolis, Ind. He served as President of the D. C. Hospital Association in 1956–57 and is Trustee of the Maryland-D.C.-Delaware Hospital Association. He is active in many other organizations.

The National Medical Foundation for Eye Care is offering for Nation-wide distribution a glaucoma identification card as a public service. The cards, similar in purpose to the diabetes identification card, will alert examining physicians that the patient has glaucoma and is using drugs. The name of the patient and of the ophthalmologist who prescribes the drugs will appear on the card, together with the prescription. It will also carry the spectacle prescription of the patient to enable him to replace broken lenses when away from home.

The cards have been printed by Abbott Laboratories as a public service and are being initially distributed to physicians by the Laboratories. Packets of the cards may be obtained by writing to the National Medical Foundation for Eye Care, 250 West 57th Street, New York 19, New York, or directly to Professional Services, Abbott Laboratories, North Chicago, Illinois.

Charles S. Dewey has retired as President of the Board of Trustees of the **Washington Hospital Center,** a position he has held since 1952. He led plans for the new Center and saw them brought to a successful conclusion. He is succeeded by **Samuel Spencer,** Executive Vice President, who was elected to the presidency at a meeting of the Board, February 16. Mr. Spencer is a former District Commissioner.

Other officers elected at the meeting were: Walter N. Tobriner, Executive Vice President; Frederick M. Bradley, H. Gabriel Murphy, and H. L. Rust, Jr., Vice Presidents; A. Murray Preston, Secretary; and Thomas H. Reynolds, Treasurer.

Elected to vacancies on the Board were Drs. Theodore Abernethy, Joel N. Novick and Howard P. Parker; also Randolph G. Bishop, the Right Reverend Angus Dun, and Messrs. Spencer, Dewey, Murphy and Rust.

The American Society for the Study of Arteriosclerosis has merged with the American Heart Association and will function as its Council on Arteriosclerosis.

PERSONALS

Dr. Charles A. Hufnagel, Professor of Surgery and Director of the Experimental Surgery Laboratory at Georgetown University School of Medicine, delivered the **1959 Kober Lecture** in Gaston Hall on the Georgetown campus, March 11. Dr. Hufnagel was selected for this year's Lecturer by the Executive Board of the Medical Society of the District of Columbia. The topic he selected to speak on was "The Basic Concepts of Cardiac and Vascular Reconstruction."

CHARLES A. HUFNAGEL, M.D.

The Kober Lecture honorarium is provided by the Kober Foundation of Georgetown, established by the late Dr. George M. Kober, Dean of the University's Medical School from 1900 to 1929. The Medical Society makes the selection of the speaker every third year.

Dr. Hufnagel performed the first successful substitution of a plastic heart valve for a diseased valve in a human patient in 1952. He has continued to work in the field of cardiovascular surgery and has received wide recognition for his accomplishments.

On February 22, Dr. Hufnagel was named "Hoosier of the Year" by the Indiana Society of Washington. Dr. Leroy E. Burney, Surgeon General of the Public Health Service, made the presentation in ceremonies at the Continental Hotel. Members of the Notre Dame Club of Washington were present to honor Dr. Hufnagel, who is an alumnus of Notre Dame University. Dr. Hufnagel received his degree in medicine from Harvard Medical School and joined the Georgetown faculty in 1950.

Dr. Calvin T. Klopp, Director of the George Washington University Cancer Clinic, was awarded the St. George Medal and citation for outstanding contribution to cancer control at the meeting of the Board of Trustees of the District of Columbia Division of the American Cancer Society, February 27, which was held at the Washington Hospital Center. Dr. John R. Heller, Director of the National Cancer Institute, made the presentation.

Dr. Klopp, Associate Professor of Surgery at George Washington, was an original incorporator of the local chapter of the Cancer Society and served as its President from 1955 until 1958. He is also a member of the Board of Directors of the national Society.

Dr. William S. Middleton, Honorary member of the Medical Society of the District of Columbia, was reappointed Chief Medical Director of the Veterans Administration for a four-year term as of March 1, 1959. Dr. Middleton has held the post since March 1, 1955.

Dr. Richard L. Whelton was sworn in, February 24 as the third deputy coroner for the District of Columbia.

Dr. Whelton, a native of Washington, graduated from the University of Maryland in 1943, and from George Washington University School of Medicine in 1947. He was associated with District of Columbia General Hospital for many years, beginning as an intern in 1947 and becoming Assistant Superintendent in 1949. During World War II he served a tour of duty with the Air Force, returning to the Hospital in 1952. He resigned his position in 1955 to go into private practice, which he will continue

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
February 24	Dr. Ben C. Jones, Jr.	Congenital Heart Disease	Alpha Phi Alumnae Chapter of Northern Virginia
February 25	Dr. Bennett Olshaker	Emotional Needs of Children	Sisterhood of Montgomery County Jewish Community, Inc.
February 26	Dr. Julius Schreiber	Dealing with Emotional Problems of Marriage and Family Life	Arlington-Fairfax Parents' Association
March 3	Dr. Thomas McP. Brown	A Total Approach to the Rheumatoid Problem	Metropolitan D. C. Chapter, American Physical Therapy Association
March 3	Dr. Christine W. Kehne	Use and Abuse of "Permissiveness"	Parent-Teachers Association, Broadacres Elementary School
March 7	Dr. Earl H. Mitchell, Jr.	How the Medical Society Is Helping the Alcoholic in This Area	Industrial and Medical Workshop on the Problem of Alcoholism (AA)
March 8	Dr. Christine W. Kehne Dr. Milton S. Glatt	Interdisciplinary Look at Developmental Deviation; a panel discussion	Interdisciplinary Seminar on Developmental Deviations, University of Maryland
March 14	Dr. Julius Schreiber	Characteristics of Good Mental Health	D. C. Association for Mental Health Conference
	Panelists:		
	Dr. Sidney L. Werkman	The Teen-Age	
	Dr. Preston A. McLendon	What Every Child Needs for Good Mental Health	
	Dr. John D. Schultz, Jr.	Commitment: Voluntary vs. Involuntary	
	Dr. Marvin E. Perkins, *Moderator*	Mental Patients and Their Return to the Community	

along with a teaching post at Providence Hospital while serving as deputy coroner.

His appointment was the first addition in 25 years to the Coroner's staff, which is made up of Dr. A. Magruder MacDonald and two other assistants, Dr. Richard M. Rosenberg and Dr. Christopher J. Murphy.

Dr. Ralph M. Caulk was reëlected President of the Medical Board of the active medical staff of the Washington Hospital Center, March 2. The other officers are: **Dr. J. Spencer Dryden,** First Vice President; **Dr. Thomas W. Mattingly,** Second Vice President; **Dr. Harold W. Krogh,** Secretary; **Dr. Francis L. Wenger,** Assistant Secretary; **and Dr. Garnet W. Ault,** Treasurer.

Dr. James E. Fitzgerald attended the meeting of the American Medical Education Foundation in Chicago, January 24, and was reappointed Regional Chairman for the Middle Atlantic States.

Dr. George Tievsky was recently elected to fellowship in the American Association for the Advancement of Science and will represent the American College of Radiology on its Council.

At the **Annual Assembly of the Southeastern Surgical Congress** in Miami Beach, Fla., March 9-

DR. MORRIS CITED BY ALUMNI

Dr. William Ross Morris (left) receives a citation in recognition of 25 years of service on the faculty of George Washington University School of Medicine from Mr. Otto W. Schoenfelder, President of the General Alumni Association. The presentation was made at the Alumni Banquet, February 21, 1959, at the Shoreham Hotel.

12, four faculty members of Georgetown University School of Medicine were elected to fellowship in the Congress: **Dr. Earl B. Barnes,** Associate Professor of Surgery; **Dr. Luther W. Gray,** Clinical Instructor of Surgery; **Dr. John P. Haberlin,** Clinical Assistant Professor of Surgery; **and Dr. Robert J. O'Donnell,** Clinical Instructor of Surgery.

Dr. Murray M. Copeland, Professor of Oncology, served as President of the Congress for 1958–59. Four other members of the Georgetown faculty, Drs. Oscar B. Hunter, Jr., Charles F. Geschickter, Edgar W. Davis, and William J. Tobin, participated in the scientific program.

Dr. R. Frank Jones was elected a Director of the United Givers Fund, at its annual meeting, February 25, to serve for a three-year term, expiring February, 1962. The Board of UGF has a membership of 150, one-third of whom are elected each year.

Dr. John C. Rose has been elected Chairman of the Southern Section of the American Federation for Clinical Research.

Drs. Leonard S. Berman, W. Proctor Harvey, and Sol Katz have been elected to membership in the Southern Society for Clinical Research.

Drs. Alvin F. Robinson and William B. Russell are principal stockholders in Medical Associates, Inc., which is building a modern, 3-level, $200,000 medical center at 915 Rhode Island Avenue, N.W. This is the first project of its kind to be built in the District by Negro physicians. The building is expected to be ready for occupancy early in May.

CORRESPONDENCE

Washington, D.C., February 26, 1959

To the Editor:

Thank you very much for your courtesy in permitting me to review the open letter addressed to me which will be published in the March issue of the Medical Annals of the District of Columbia.

The statement sets forth straightforwardly, I believe, the position of your organization on the resumption of hearings on Blue Cross charter revision. In this connection, you may find the attached copy of a letter which I have forwarded to the Editors of *Medical Economics,* in response to a similar courtesy, of interest.

With kind regards,

Sincerely,
Wayne Morse
United States Senate Committee on the District of Columbia

Washington, D.C., February 26, 1959

The Editors
Medical Economics
Oradell, New Jersey

Gentlemen:

Thank you very much for your courtesy in permitting me to review the attached article. I want to assure you and your readers on one important point in connection with the resumption of the hearings on Blue Cross charter revision. As Chairman of the Subcommittee on Public Health, Education, Welfare and Safety of the Senate Committee on the District of Columbia, I intend, and I am sure that my colleagues on the subcommittee intend, in this inquiry to be guided by a major principle which should be at the basis of any congressional inquiry. That principle is simply to determine what the facts of the situation are in order that a firm record may be made which can serve as a basis for legislation which is in the public interest.

It is not our intention to 'pillory' any individual, or group of individuals. At the same time we have the duty and responsibility of making as thorough a study as we can in order that the relevant factual material can be placed upon the public record. We will follow where the facts lead, and the legislative product will reflect what we find.

It is certainly in the best interests of the public, the hospitals and the medical profession itself that factual information be set forth in an objective and analytical manner and that a determined joint effort be made to devise procedures which will have the effect of helping to supply the citizens of the District with a high standard of medical care at an economical cost.

Sincerely,
WAYNE MORSE

WASHINGTON, D.C., March 4, 1959

THE HONORABLE WAYNE L. MORSE
UNITED STATES SENATE
WASHINGTON, D.C.

MY DEAR SENATOR MORSE:

I am writing you at the request of our Executive Board to advise you officially that our Society will be happy to coöperate with you and your Subcommittee in the study which it is undertaking of hospital and medical costs in the District.

Whenever you wish a representative of our Society to make an appearance, will you kindly let me know and arrangements will be made accordingly.

It is our earnest hope that your investigation will prove not only worthwhile but fruitful.

Sincerely yours,
PRESTON A. MCLENDON, M.D.
Chairman, Executive Board, The Medical Society of the District of Columbia

WASHINGTON, D.C., March 9, 1959

DEAR DR. MCLENDON:

Thank you very much for your March 4, 1959 letter in which you assure the Subcommittee of the coöperation of the Medical Society of the District of Columbia in carrying on the Blue Cross charter revision hearings.

I regret very much that your letter had not been brought to my attention at the time that you appeared before the Subcommittee in connection with the hungry children hearings, else at that time I would have made personal acknowledgment to you.

I am sure that basically all of us who are interested in finding solutions to the problems and costs of medical care have but one objective and that is to assure the greatest possible benefit to the patient at a moderate cost.

With kind regards,

Sincerely,
WAYNE MORSE

EDWARD BOYCE TUOHY, B.S., M.D., M.S.
(1908–1959)

Dr. Edward Boyce Tuohy, formerly Professor of Anesthesiology at Georgetown University School of Medicine and Chief Anesthesiologist at Georgetown Hospital, died, January 12, 1959, at his home in Los Angeles, where he had practiced for the past 7 years. At the time of his death he was Professor of Anesthesiology at the University of Southern California.

Dr. Tuohy was nationally known through his contributions to the literature, which consisted of more than a hundred articles and chapters in several medical texts. In addition he had devised new technics in the fields of surgery and anesthesiology.

Dr. Tuohy was born in Duluth, Minn., March 17, 1908, to Dr. Edward L. and Ida M. Boyce Tuohy. After graduating from the University of Minnesota, with a bachelor degree in science, in 1929, he enrolled at the University of Pennsylvania for his medical education, receiving his doctor's degree in 1932. He interned at Ancker Hospital in St. Paul, Minn., the following year. He was granted a fellowship at the Mayo Foundation in Rochester, where he served from 1933 to 1935, and received his master's degree in anesthesiology from the University of Minnesota in 1936. He continued on the staff of Mayo Clinic as a full-time staff member from 1935 to 1947.

Dr. Tuohy came to Washington in 1947 to take up his duties as head of anesthesiology at Georgetown University. He resigned in 1951. During those years he was also consultant in anesthesiology to the National Naval Medical Center.

During World War II he served in the Medical Corps of the United States Army with the rank of Major. He completed a short tour of duty at Walter Reed Army Hospital and for three years was stationed at Percy Jones General Hospital in Battle Creek, Michigan.

He was a member and Past President of the American Society of Anesthesiology and a diplomate of the American Board of Anesthesiology. He was a member of the American Medical Association, the American Association for the Advancement of Science, and the American Society for Pharmacology and Experimental Therapeutics. He was an Active member of the District Medical Society from 1948 to 1953.

Surviving him are his wife, Mrs. Dorothy Johnson Tuohy, and two sons, Michael and Patrick, all residing in Los Angeles.

JOHN BURR PIGGOTT, M.D.
(1879–1959)

Dr. J. Burr Piggott, Life member of the Medical Society of the District of Columbia, died, February 10, 1959, at a hospital in Florence, South Carolina.

Dr. Piggott was born in Purcellville, Virginia, September 5, 1879. He attended the public schools in Virginia and the Randolph Macon Academy at Front Royal. He also studied at Randolph Macon College in Ashland, Va., before he enrolled for medical study at the University of Maryland in Baltimore. He graduated from the University in 1907. He interned the following year at St. Joseph's Hospital in Baltimore and spent the next year at the University Hospital in Baltimore as resident physician. He was also Superintendent at the latter Hospital for a year.

Dr. Piggott practiced in Grafton, West Virginia, for a year before entering practice in the District of Columbia in 1912. He served with the Army Medical Corps in World War I with the commission of Major. After the War he returned to private practice in Washington, retiring early in 1956 because of a bone injury. Since May 1957 he had been residing in South Carolina.

While in practice he was on the staff at Casualty Hospital and had courtesy privileges at other hospitals.

Dr. Piggott was elected to membership in the Medical Society of the District of Columbia in 1913 and became a Life member in 1954. He was a member of the Tri-State Medical Society, and a member of the Army-Navy Country Club.

He leaves a son, Dr. J. Burr Piggott, Jr., of Florence, S. C. His wife, Mrs. Alice Bell Piggott, preceded him in death by 10 days.

Roentenography of Portal Venus System—Myers and Sullivan

(Continued from page 188)

the shunt. Other indications have been mentioned.

We have found percutaneous splenoportography combined with the measurement of splenic pulp pressure to be a safe, simple, and extremely useful procedure in evaluating the anatomy and function of the portal venous system.

BIBLIOGRAPHY

1. Blakemore, A. H., and Lord, J. W., Jr.: Ann. Surg., 1945, **122**, 476.
2. Moore, G. E., and Bridenbaugh, R. B.: Surgery, 1950, **28**, 827.
3. Child, C. G., III, O'Sullivan, W. D., Payne, M. A., and McClure, R. D., Jr.: Radiology, 1951, **57**, 691.
4. Pereira, A. de S.: Lyon chir., 1951, **46**, 291.
5. Abeatici, S., and Campi, D.: Minerva med., 1951, **1**, 593.
6. Leger, L.: Mém. Acad. chir., 1951, **77**, 712.
7. Boulvin, R., Chevalier, M., Gallus, P., and Nagel, M.: Acta chir. belg., 1951, **50**, 534.
8. Dreyer, B., and Budtz-Olsen, O. E.: Lancet, 1952, **1**, 530.
9. Sotgiu, G., Cacciari, C., and Frassineti, A.: Presse méd., 1952, **60**, 1295.
10. Bahnson, H. T., Sloan, R. D., and Blalock, A.: Bull. Johns Hopkins Hosp., 1953, **92**, 331.
11. Cooper, D. R., Brown, R. C., Stone, C. H., III, and Ferguson, L. K.: Ann. Surg., 1953, **138**, 582.
12. Rousselot, L. M., Ruzicka, F. F., and Doehner, G. A.: Surgery, 1953, **34**, 557.
13. O'Sullivan, W. D., and Evans, J. A.: Surg. Gynec. & Obst., 1955, **101**, 235.
14. Rodriguez, H. F., Gardner, F. H., and Diaz-Bonnet, R.: Am. J. M. Sc., 1956, **232**, 1.
15. DeWeese, M. S., and others: A.M.A. Arch. Surg., 1957, **75**, 423.
16. Sullivan, B. H., Jr., Herman, R. H., and Myers, J. E., Jr.: U. S. Armed Forces M. J., 1958, **9**, 1257.
17. Atkinson, M., and Sherlock, S.: Lancet, 1954, **1**, 1325.
18. Turner, M. D., Sherlock, S., and Steiner, R. E.: Am. J. Med., 1957, **23**, 846.
19. Reynolds, T. B., Mikkelsen, W., and Redeker, A. G.: J.A.M.A., 1955, **158**, 478.
20. Figley, M. M.: Am. J. Roentgenol., 1958, **80**, 313.
21. Steinbach, H. L., Bierman, H. R., Miller, E. R., and Wass, W. A.: Radiology, 1953, **60**, 368.
22. Bierman, H. R., and others: J.A.M.A., 1955, **158**, 1331.
23. Rigler, L. G., Olfelt, P. C., and Krumbech, R. W.: Radiology, 1953, **60**, 363.
24. McDermott, W. V., Jr.: New England J. Med., 1958, **259**, 897.
25. Dogliotti, A. M., and Abeatici, S.: Surgery, 1954, **35**, 503.

26. Snavely, J. G., and Breakell, E. S.: Am. J. Med., 1954, **16**, 459.
27. Sullivan, B. H., Jr., Leinhard, W. F., Jr., and Lukeman, J. M.: Gastroenterology, 1954, **26**, 868.
28. Gilsanz, V., Vergara, A., and Estella, L.: A.M.A. Arch. Int. Med., 1957, **100**, 201.

Gastric Carcinoma—Hamilton and Barry

(*Continued from page 192*)

BIBLIOGRAPHY

1. Cooper, W. A.: J. Nat. Cancer Inst., 1941, **2**, 85.
2. Harnett, W. L.: Brit. J. Surg., 1947, **34**, 379.
3. Jemerin, E. E., and Colp, R.: Surg. Gynec. & Obst., 1952, **95**, 99.
4. Brown, C. H., and Kane, C. F.: Gastroenterology, 1952, **22**, 64.
5. Marshall, S. F., and Adamson, N. E., Jr.: South. M. J., 1957, **50**, 776.
6. McNeer, G., Lawrence, W., Jr., Ashley, A. B., and Pack, G. T.: Surgery, 1958, **43**, 879.
7. Eisenbud, M., and Finby, N.: Ann. Int. Med., 1957, **46**, 43.
8. Roach, J. F., Sloan, R. D., and Morgan, R. H.: Am. J. Roentgenol., 1949, **61**, 183.
9. Wigh, R., and Swenson, P. C.: Ibid., 1953, **69**, 242.
10. Hitchcock, C. R., Sullivan, W. A., and Wangensteen, O. H.: Gastroenterology, 1955, **29**, 621.
11. Rigler, L. G., and Kaplan, H. S.: J. Nat. Cancer Inst., 1947, **7**, 327.
12. Mosbech, J., and Videbaek, A.: Brit. M. J., 1950, **2**, 390.

Treatment of Acute Radiation—Dacquisto and Hartgering

(*Continued from page 202*)

It is unlikely that any single measure will prevent or cure all the complications caused by exposure to ionizing radiation. The mechanism of action is still unknown, and the cellular damage is extensive and complex. However, this should not discourage us, since we are required to treat the several phases of other diseases and injuries with the various methods specific for the particular complication. There is much we can do today to alter the clinical course of the radiation syndrome in individuals receiving as much as 800 rads. Current research findings indicate that in the not too distant future we may be able to not only improve our treatment in this dosage range, but may be able to manage individuals receiving what is today considered a 100 per cent lethal exposure.

BIBLIOGRAPHY

1. Report of the International Commission on Radiological Units and Measurements (ICRU). Handbook 62, U. S. Department of Commerce, National Bureau of Standards, April 10, 1957. Washington 25, D. C.: U. S. Government Printing Office.
2. Storer, J. B., and others: Radiation Res., 1957, **6**, 188.
3. Hempelmann, L. H., Lisco, H., and Hoffman, J. G.: Ann. Int. Med., 1952, **36**, 279.
4. Gerstner, H. B.: U. S. Armed Forces M. J., 1958, **9**, 313.
5. Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan: Medical Report, 1947.
6. Lebow, A. A., and others: Am. J. Path., 1949, **25**, 853.
7. Miller, L. S., Fletcher, G. H., and Gerstner, H. B.: Radiation Res., 1958, **4**, 150.
8. Allen, J. G., Moulder, P. V., and Enerson, D. M.: J.A.M.A., 1951, **145**, 704.
9. Upton, A. C.: Blood, 1955, **10**, 1156.
10. Coulter, M. P., Furth, F. W., and Howland, J. W.: Am. J. Path., 1952, **28**, 875.
11. Michaelson, S. M., and Howland, J. W.: Antibiotics Annual, 1956–57, pp. 936–41.
12. Bacq, Z. M., and others: Arch. internat. physiol., 1951, **59**, 442.
13. Doherty, D. G., and Burnett, W. T.: Proc. Soc. Exper. Biol. & Med., 1955, **89**, 312.
14. Alexander, P., and others: Radiation Res., 1955, **2**, 392.
15. Storer, J. B., and Coon, J. M.: Proc. Soc. Exper. Biol. & Med., 1950, **74**, 202.
16. Jacobus, D.: Pre-protection of the dog against a lethal dose of X-radiation, to be presented before the Federated Societies of Biology and Medicine in Atlantic City, N. J., April 14, 1959.
17. Congdon, C. C., Uphoff, D., and Lorenz, E.: J. Nat. Cancer Inst., 1952, **13**, 73.
18. Congdon, C. C., and Urso, I. S.: Am. J. Path., 1957, **33**, 749.
19. Makinodan, T.: J. Cell. & Comp. Physiol., 1957, **50**, 327.
20. Loutit, J. F.: Personal communication.
21. Uphoff, D. E.: J. Nat. Cancer Inst., 1958, **20**, 625.
22. Cole, L. J.: Prevention of late deaths in X-irradiated mice by injected hematopoietic cells of newborn donors. U. S. Naval Radiological Defense Lab., June 24, 1958 (USNRDL TR 245).

Dissecting Aortic Aneurysm—Blake and Kamin

(*Continued from page 209*)

3. Swann, W. K., and Bradsher, J. T., Jr.: Acute dissecting aneurysm of aorta; operation with recovery. New England J. Med., 1956, **255**, 36.
4. Hara, M., and Growdon, J. H.: Surgical treatment of aortic dissecting aneurysm. Angiology, 1958, **9**, 233.
5. Ponseti, I. V., and Baird, W. A.: Scoliosis and dissecting aneurysm of aorta in rats fed with lathyvous odoratus seeds. Am. J. Path., 1952, **28**, 1059.
6. Hirst, A. E., Jr., Johns, V. J., Jr., and Kime, S. W., Jr.: Dissecting aneurysm of the aorta: review of 505 cases. Medicine, 1958, **37**, 217.
7. Shennan, T.: Dissecting aneurysms. M. Res. Council, Spec. Rep. Series, No. 193, 138. London: H.M.S.O., 1934.

Book Reviews

The Neurologic Examination Incorporating the Fundamentals of Neuroanatomy and Neurophysiology, 2nd. ed. Russell N. DeJong, M.D., Price, $20.00. Pp. 1078, with 368 illustrations. New York: Hoeber-Harper, 1958.

In the 8 years since the publication of the first edition of "The Neurologic Examination" a great deal of new material, particularly in the fields of neuropharmacology, neurochemistry, and stereotaxic investigation has enriched the fundamental knowledge of neuroanatomy and neurophysiology. The author in this edition has made a serious attempt to cull this great mass of literature for the newer and more significant findings and to introduce them appropriately into the text and format, which is largely that of the first edition.

In general, the author has succeeded quite well, although in his chapter on autonomic function nowhere in the text nor in the various tables he presents has he made mention of the neurohormone serotonin or the studies using lysergic acid. I think this is a serious omission and should be corrected in any coming edition. However, in this same chapter, perhaps more so than in any other chapter, are many references to drugs, and I believe the author is to be congratulated for having first given the scientific name, then giving the common or trade name, and continuing to employ the latter in his discussion. After all, a textbook is intended to inform, and if the information it contains is constantly being obscured by unfamiliar words the thread of thought can become extremely tangled.

I think the chapters dealing with the anatomy, physiology and testing of the cranial nerves are as fine and thorough as I have ever seen in any textbook. The descriptions are lucid, and the illustrations and diagrams clear and appropriate. It seems strange, though, that for all the pages spent in the minute description of the cranial nerves, only 20 pages are devoted to covering the Functions and Disorders of Function of the Cerebral Cortex. I would wish to see more said about the cerebral mantle, especially the temporal lobes and the limbic lobes which in recent years have attracted so much the attention of neuroanatomists and neurophysiologists.

Generally speaking, the author has clung rather closely to his stipulated title of "The Neurologic Examination." However, from time to time he slips well into the clinical discussion of various diseases. While this is, of course, helpful to clarify the neurology, anatomy and physiology involved, I find it a little disturbing because there is just enough to intrigue and not enough to inform. The author has also included a fine chapter on the examination in cases of suspected hysteria and malingering. Too often this aspect of the neurologic examination is overlooked in many texts, and in these days of the litigious patient, such information is invaluable to the student. In the chapter on the examination of the cerebral spinal fluid, which in general is quite good, there still exists a several paragraph discussion of the chloroid content of the spinal fluid. I think today most neurologists agree that spinal fluid chloroid determination is generally worthless as a diagnostic aid, and I believe that the author in future editions should expunge this from his volume.

Finally, I come to what I consider the most serious deficit in this book. It is beautifully bound, the type is legible, its pictures and diagrams are fine, its paper feels costly, but it weighs 5 pounds and 9 ounces (2.715 Kg.). I think this is entirely too heavy a book to be in constant use (as the author and publisher would much desire). Furthermore, I have the strong but unsubstantiated suspicion that many of its readers, like me, are librocubicularists and 2.715 Kg. is just too much to rest on one's chest. I therefore urge the author, and the publisher too, that if future editions are planned, they be issued as a 2-volume set.

J. M. W.

Ciba Foundation Symposium on the Neurological Basis of Behaviour, in commemoration of Sir Charles Sherrington, O.M., G.B.E., F.R.S., 1857–1952. G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecelia M. O'Connor, B.Sc., editors for the Ciba Foundation. Price, $9.00. Pp. 400, with 109 illustrations. Boston: Little, 1958.

This Symposium brings forward original reports from many outstanding centers for neurologic research. The efforts range from unicellular physiology to study of the organism as a whole. That electrophysiologic, chemical and pharmacologic methods predominate is consistent with the general trend of scientific approach within this field. On the one hand, the formal presentations correlate controlled or conditioned changes in behavior patterns with electrical or chemical events in neural units of varying size and complexity. Others report on the modification of behavior under the more classical conditions of regulated parameters of stimulation or zones of ablation. Some suggest great promise of uniting neurology and psychiatry at the laboratory level. Typical are Penfield's observation of the temporal cortex in recall of past experience and interpretation of the present, Richter's evidence that severe stress produces permanent changes in behavior and metabolism, and Elkes' suggestion that neural units within the central nervous system vary widely in specific receptivity to circulating chemical agents.

(*Continued on page 59*)

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Book Reviews

(*Continued from page 57*)

This book differs from most published colloquia in that sparkling, and, therefore, apparently spontaneous, discussion follows each presentation. While it is representative of the activity in countless clinics and laboratories, it becomes highly significant as it springs from among outstanding contemporary neurophysiologists who here define the limits or, as Penfield implies, the beginning of our knowledge of behavior's physiologic substrate.

This book will be of relatively greater interest to neurologists, psychiatrists, and investigators in biology.

John T. Lord, M.D.

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THROMBO-EMBOLISM*

Part I

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STATISTICS

SINCE VIRCHOW observed in 1846 that pulmonary emboli result from the detachment of blood clots from peripheral veins, interest has gradually been growing in the problems concerned with the cause and treatment of phlebitis or venous thrombosis and the resultant pulmonary embolism. Interest in this problem was accelerated greatly by Link's discovery and synthesis of Dicumarol reported in the Harvey Lectures of 1943–4.

With the growing interest in this disease many theories have been studied and statistics collected and reported; some of these follow. Pulmonary embolism developed in 1.1 per cent of a 5-year series of hospitalized patients.[1] Pulmonary embolism causes 5 per cent of postoperative deaths.[2]

In one careful study[3] it was found that postoperative thrombosis occurs in 2 per cent of all those receiving an operation and that 0.1 per cent of patients undergoing an operation terminate with embolism. One mother in every 2,000 deliveries dies with fatal pulmonary embolism. Another author[4] believes that pulmonary embolism is found in 10 per cent of all autopsies and causes 2 to 3 per cent of deaths.

The studies of Ochsner and associates[5] at New Orleans Charity Hospital would suggest that the incidence of both thrombo-embolism and fatal pulmonary embolism is increasing. Hampton and Castleman[6] in a special study group of 400 consecutive autopsies found that approximately 9 per cent of routine autopsies can be shown to have pulmonary embolism and that by a special technic to aid in their detection (taking 6-foot postmortem chest films, filling the trachea with formalin and careful dissection after fixation) this percentage figure was raised to 14 per cent. In his experience 90 per cent of cardiac patients autopsied had pulmonary embolism and 58 per cent of all postoperative patients autopsied demonstrated pulmonary emboli. That it is a very significant disease can be seen from figure 1.[6]

In another series of necropsy studies, simply confining middle-aged and elderly persons to bed for more than a brief period of time produced venous thrombosis in 52.7 per cent.[7] Of these patients 17 per cent had pulmonary embolism, and one-third of these were fatal.

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* This is Part I of a thesis prepared in partial fulfillment of requirements for advancement to Fellowship in the American College of Physicians. Part II will appear in the June issue of the MEDICAL ANNALS.

The Mayo Clinic found that 4 per cent of patients with an abdominal hysterectomy develop venous thrombosis and that 0.7 per cent die with pulmonary embolism.[8] In another statistical study pulmonary embolism was found to be responsible for 80 of 1,000 postoperative deaths, or 2 deaths in every 1,000 operations, or 1 death in every 2,000 patients receiving hospital care.[9] The incidence of fatal pulmonary embolism is actually higher in nonsurgical patients than in surgical patients.[10]

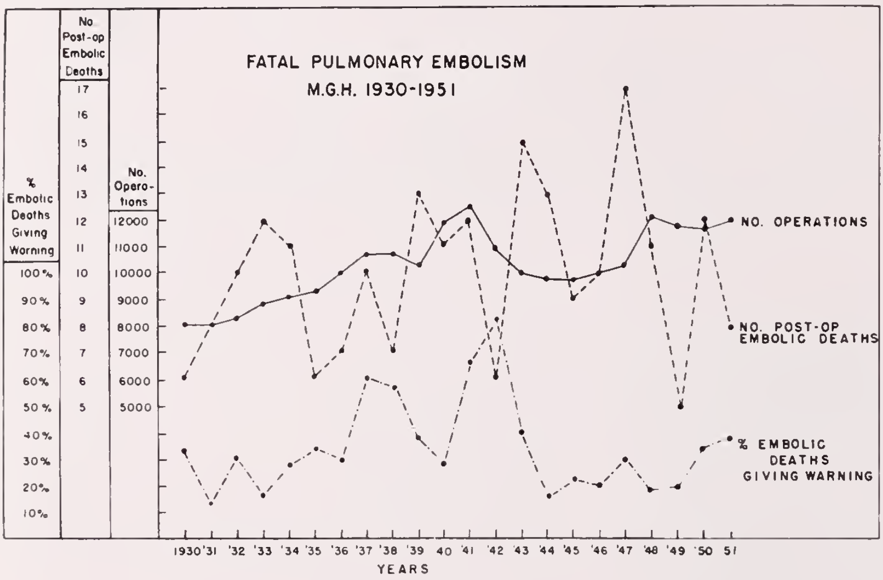

FIGURE 1

A further clue to the significance of this disease in our overall health picture can be seen from the fact that there are approximately 40,000 deaths a year currently from automobiles. In 1955 there were 14,940 deaths from tuberculosis in the United States, and in 1956 this figure was under 12,000. It has been estimated that there are approximately 30,000 deaths a year from thrombo-embolism.[3]

Postoperative pulmonary embolism average incidence[11] was:

Fatal	0.18
Nonfatal	0.2

Among all medical patients admitted to the hospital the incidence[11] of pulmonary embolism was:

Fatal	0.4
Nonfatal	0.7

In the same study[11] in a 350-bed general hospital, with 10,000 admissions per year, mainly because of better diagnosis but partly because of the increasing age of the hospital population, the number of cases of pulmonary embolism (60 per year) now exceeds pneumonia (33 per year) or bronchogenic carcinoma (30 per year). In their routine necropsy material 7.7 per cent showed evidence of pulmonary embolism or infarction.

From many sources and many types of studies it is apparent that this is a significant disease and a disease of growing importance with better awareness, better diagnostic methods, with the increasing age of the population and more extensive operations. Because of the disagreement on the diagnostic criteria for the disease and the inability in many cases to be certain, considerable difference of opinion and confusion exist in the literature in this field. This is borne out by the comments of DeBakey,[12] when he states, in his extensive review of the subject, "inconsistent findings and incompatible statistics keynote all phases of the subject."

PREDISPOSING AND CAUSATIVE FACTORS

Venous thrombosis occurs especially in older patients in whom it is associated with heart disease, neoplasms, and major surgical procedures.[11] In younger patients it is often the result of minor injuries and fractures.

Inactivity, especially bed rest,[13] and numerous infections[14] as well as subacute bacterial endocarditis, auricular fibrillation, or thromboangiitis obliterans all predispose to venous thrombosis.

Pulmonary embolism may precipitate or complicate heart failure; it frequently occurs, complicating myocardial infarction.[15]

That operations on the pelvis or laparotomies with extensive resection of tissue especially predispose the patient to the development of venous thrombosis and pulmonary embolism can readily be seen from table 1.[16]

TABLE 1

Postoperative Incidence of Thrombophlebitis and Embolism

	All Thrombophlebitis and Embolism	Pulmonary Embolism	Fatal Pulmonary Embolism	Clinical Diagnosis of Thrombophlebitis
All operations	0.96	0.52	0.20	0.54
Laparotomies (except hernia)	2.11	1.11	0.41	1.21
Laparotomies (female pelvic operations)	3.12	1.17	0.53	2.24
Laparotomies (extensive resection)	3.66	1.76	0.68	2.11

The same authors find that pulmonary embolism occurs especially with surgical operations, puerperium, carcinoma, heart failure, varicosities, previous history of thrombo-embolism, severe injuries, age over 40 years, obesity, polycythemia, anemia, and infectious diseases.[16]

Thrombo-embolism may occur in children, but the incidence is less and major predisposing factors are usually essential for venous thrombosis to develop (infection, dehydration, malnutrition, or circulatory stasis). In children the venous thrombosis often becomes infected and there is a relatively high incidence of fatality once the disease process is initiated.[17]

Another study on the importance of age in this disease discloses that 82 per cent of patients with thrombo-embolic disease are over 40 years of age.[18] A study on other important predisposing causes suggests that the history of any thrombo-embolic or occlusive arterial disease, acute myocardial infarction, congestive failure, large hearts, auricular fibrillation, obesity, debilitation, polycythemia or anemia is important in this respect. In patients with coronary artery disease, it is more important to prevent thrombosis of the deep venous channels of the bedridden patient's legs than to be concerned about retrograde coronary clotting or mural thrombus formation.[7] Ninety per cent of pulmonary embolism occur in a predictable 30 per cent of patients.[19]

In a recent study of 748 cases of phlebitis[20] it was pointed out that phlebitis was associated with tuberculosis in 2 per cent of the cases, with hemiplegia in 5 per cent and no discernible predisposing factors in 6.5 per cent.

Common predisposing causes[21] are obesity, carcinoma, antecedent thrombo-embolism, varicose veins, pressure bandages on older surgical patients, heart disease, blood disturbances, arterial insufficiency, and extensive operations.

Factors predisposing to pulmonary embolism[22] may be considered (A) preventable or treatable: obesity, varicose veins, anemia, polycythemia, dehydration, shock, heart failure, and infectious disease; or (B) where the conditions cannot be directly changed: advancing age, bed rest, previous venous thrombosis, peripheral arterial insufficiency, pregnancy (in the puerperium), surgical operations, injuries, burns, cancer, and myocardial infarction.

Hemiplegia was the third most frequent predisposing disease in one study.[23] Prolonged sitting in air-raid shelters or while viewing television may lead to phlebothrombosis,[24] and 1 patient developed femoral artery thrombosis attributed to prolonged television viewing. The inactivity and resultant venous stagnation associated with automobile travel of even ½ day may lead to thrombo-embolism.[25]

In a recent study the authors[26] conclude that, contrary to the general impression suggested in the literature, their experience would indicate that there is no significant association between idiopathic venous thrombosis and hidden cancer.

Pathologic Considerations

Of the 3 basic mechanisms in the cause of venous thrombosis—(a) venous retardation, (b) intimal vessel wall damage, and (c) physiologic alterations in the blood coagulability, probably venous retardation is the most important factor[9] and will, therefore, be discussed first.

Venous retardation. Incipient thrombi tend to be initiated at the apices of the valve pockets or they may originate in the cul de sacs formed by the valve pockets where the stasis is maximal.[20] Venous stasis, which is greatest in the lower extremities, is due to many factors[10]: decreased muscular contraction, diminished arterial blood flow, increased intra-abdominal tension, intrathoracic negative pressure which is less than normal, etc. The thrombus in phlebothrombosis is the same type that occurs in a test tube when blood is withdrawn from the body and allowed to clot.

Intimal vessel wall damage. All clinicians are familiar with the phlebitis that not uncommonly accompanies frequent venipunctures, prolonged infusions, or injections of irritating or hypertonic solutions. On the other hand, in a careful dissection study little evidence of local injury or disease in the vein wall could be found.[27] Serial sections have failed to show any underlying intimal change that would act as a precipitating factor in thrombus formation.[28]

Physiologic alterations in the blood coagulability. According to Knisley and Warner[29] with their special studies on vertically suspended mesenteries and a horizontal microscope blood sludging could be demonstrated. Under these conditions the blood cells could be seen to agglutinate into masses which settle to the lower side of the vessel and cement together, forming larger masses. On the other hand, other authors have reported studies on several known factors important in blood coagulation and have shown no etiologic relationship to the venous thrombosis when present.[27]

Increased blood coagulability has been studied by Wessler and associates[30] in dogs. Intravascular thrombi can be induced by the systemic infusion of normal heterologous canine serum. The hypercoagulable state lasts several minutes, with massive venous thrombosis developing in veins containing stagnant blood far removed from the site of infusion. Plasma is inert in this respect. The necessary serum fraction is rich in convertin and possibly other factors. The venous stasis need be only partial. A temporary rise in the convertin complex has also been demonstrated in pregnancy and the early puerperium.[30] A temporary rise in platelet adhesiveness has been demonstrated postoperatively. Liberation of thromboplastic elements from gravid uteri, traumatized tissues, or necrotic tumors may contribute to the hypercoagulable state. Clot formation can then be initiated and potentiated by a degree of stasis that would not by itself result in thrombus formation.

Site of origin. Venous thrombosis, possibly giving rise to pulmonary embolism, occurs in the deep veins of the calves, pelvic veins, or the right side of the heart.[14] Eighty per cent of emboli in noncardiac cases come from phlebothrombosis in the extremities, about 10 per cent from thrombophlebitis.[6] In cardiac cases about 25 per cent of pulmonary emboli come from intramural cardiac thrombi, chiefly right atrial.[4] Venous thrombosis originates in the plantar veins or branches of the anterior and posterior tibial vessels of the foot and lower calf, partly due to endothelial anoxemia.[18, 31]

There is growing evidence in the literature that separation of thrombophlebitis and phlebothrombosis because of a supposed difference in embolic potential is not warranted.[20, 28] Apparently pulmonary embolism occurs frequently in either condition. Arterial spasm is often associated with thrombosis of the leg veins, and in the presence of even unsuspected thrombosis of the leg veins arterial spasms so severe and so profound as to lead to gangrene of the leg have been reported.[32] A primary pelvic varicocele in a 40-year-old housewife, who had 100 embolic episodes over a 10-year period, was excised together with ligation of the vena cava with an apparent cure.[33] Bilateral renal venous thrombosis can apparently initiate the nephrotic syndrome.[34] Venography to demonstrate the thrombosed inferior vena cava and renal vein together with renal biopsy is necessary to establish this diagnosis. Some of the disagreement on the site of the primary venous thrombosis undoubtedly arises because so few dissections are carried out below the inguinal ligaments. The leg veins are probably the primary site in 90 per cent of phlebothrombotic episodes.[35]

Pulmonary embolism. The diseased or congested lung is much more likely to develop the full picture of pulmonary infarction after pulmonary embolism.[6, 36] Pulmonary infarction follows embolism in 90 per cent of patients with heart disease but in 60 per cent of patients with other diseases. This is probably due to the congestion and slowed flow of blood in the lungs of the heart patient.[14] Pulmonary infarction develops against a pleural surface, especially at the costophrenic angles. It is probable that there is recanalization of the embolus later in many cases. On external examination of the gross lung specimen, small fat tabs on the pleura give a clue to healed or healing pulmonary infarcts. Pulmonary emboli may give rise to hemorrhagic pleural effusion or, still later, to old linear fibrotic shadows on X-ray films of the chest. Pulmonary emboli apparently may produce even cavitation in the lung.[37] The development of pulmonary artery thrombosis usually is due, according to Ring and Bakke,[38] to thrombosis superimposed on a previous embolus. McLachlin and Paterson[28] confirm this conclusion and think that the diagnosis of primary pulmonary thrombosis is unwarranted.

A decade ago Lushbaugh and Steiner[39] found widespread emboli in the small pulmonary arteries, arterioles and capillaries to be derived from the particulate matter found in the amniotic fluid and meconium in cases of obstetrical shock and death. After careful phlebographic studies Bauer[10] reported that 98 per cent of all thrombi of the legs originate in the deep veins of the calf muscles. Another interesting study on the site of the thrombosis giving rise to pulmonary emboli is summarized in table 2.[11]

TABLE 2

Relationship of Venous Thrombosis to Pulmonary Embolism

Graduate Hospital of the University of Pennsylvania, 1955–1957

	No. Patients
Phlebitis in lower extremities	58
Phlebitis in upper extremities	2
Phlebitis, probably in pelvis	4
Emboli, probably of cardiac origin	12
Inadequate examination prior to sudden death	6
Source of emboli unknown	13
	—
TOTAL	95

Hepatic dysfunction rather than hemolysis appears to be the major factor in icterus following pulmonary infarction in a careful series of fractional van den Bergh studies.[11]

SYMPTOMS AND SIGNS

Venous thrombosis may, in its early stages, give remarkably few symptoms. Pain in the affected parts, most commonly the foot, back of the ankle and the calf, especially with weight-bearing, may be the earliest complaint. There is often slight swelling in the part and occasionally slight cyanosis. In some cases the associated severe arterial spasm may give rise to blanching and even coldness in the affected limb.

On examination tenderness and swelling can easily be demonstrated. When the thrombosis occurs in the leg veins, somewhat later limitation of dorsiflexion and aggravation of the pain in the calf on dorsiflexion may be elicited.

It is necessary that the plantar veins and lower calf veins be compressed laterally to elicit the tenderness in its early stages. Slight elevation of temperature or pulse may occur,[18] and there are numerous references throughout the literature to the "sense of impending doom" the patients with venous thrombosis are reputed to experience. Sometimes the diagnosis of venous thrombosis can be suspected in the presence of a "sense of awareness of the leg and foot," aching, heaviness, or cramping of the calf or instep, duskiness of the skin of the foot and leg when examined in a good light, fullness of the superficial (saphenous) veins, thickening of the tissues over the posterior tibial vessels, or tenderness back of the ankle and lower calf.[18]

With pulmonary embolism the obstruction between the 2 ventricles can produce 3 types of disorders[41]: (1) insufficient cardiac output with peripheral circulatory failure and shock, (2) signs and symptoms of pulmonary infarction, and (3) signs of right ventricular failure (distended cervical veins, hepatomegaly).

Insufficient cardiac output. The reduced cardiac output may be manifested by reduced blood pressure, clammy moist skin, increased pulse rate, reduced renal function, and elevation of the blood nonprotein nitrogen.

Signs and symptoms of pulmonary infarction. An increasing number of careful studies report that hemoptysis is comparatively rare,[1] even though pulmonary embolism is probably the commonest cause of hemoptysis in the nontuberculous patient. Pulmonary infarction may produce fever; pain is absent unless the circulation is almost completely blocked. Pulmonary infarction may produce the symptoms and signs of pleurisy, consolidation, congestive failure or platelike areas of atelectasis at the lung bases. With the increasing awareness of the many bizarre syndromes that may originate from pulmonary infarction there has grown an increasing awareness that pulmonary infarction may occur without hemoptysis, pain, or any significant X-ray changes.[14]

The pain of pulmonary embolism may be (a) pleurisy-like in character with a pulmonary infarct, and (b) when it occurs in larger branches of the pulmonary artery it may give substernal pain like myocardial anoxia, which may be due to the associated diminished coronary artery blood flow, or (c) like that of myocardial infarction, which may occur even with normal coronary arteries.

In a recent article Silverman[42] points out that pulmonary embolism, like many other types of cardiovascular disease, will on careful bedside examination show important differentiating features, largely those of pulmonary hypertension. He refers especially to a heaving pulsation in the left lower parasternal area, systolic lifting in the second left intercostal space adjacent to the sternum, a palpable shock in the pulmonic area, and a conspicuous presystolic jugular pulsation. Localized tenderness of the chest wall, intense cyanosis or hemoptysis favor embolism, he believes.

Signs of right ventricular failure. Syncope, often a presenting complaint for neurologic entities, may be due to the reduced left ventricular output with pulmonary infarction. Two patients had syncope without pain.[11] Accentuated pulmonic second, progressive dypsnea and a full-blown picture of cor pulmonale may be the presenting symptoms of pulmonary embolism.[14] Shock, congestive failure or unexplained fever may be the only indication of pulmonary infarction.[14] Thoracic pain and frank venous thrombosis occurred in only 20 per cent of the cases.[11] In probably 75 or 80 per cent of cases of fatal pulmonary embolism there are premonitory signs and symptoms.[35]

A recent, careful study of the syndromes, symptoms and signs associated with 90 cases of pulmonary embolism is presented in tables 3, 4 and 5.[11]

DIAGNOSIS

As explained in the preceding sections, pulmonary infarction may take many bizarre

TABLE 3

Frequency of Pulmonary, Cardiac, Abdominal, and Neurologic Syndromes in Patients with Pulmonary Embolism

Graduate Hospital, Philadelphia, 1955–1957

	No. Patients	Per cent
Manifestations suggestive of pulmonary syndromes:		
Pneumonia	18	
Dry pleurisy (friction rub with N chest X-ray)	10	
Pleurisy with effusion	7	
Lung abscess	2	
Tuberculosis	1	
Lung cancer	1	
Total	39	43.3
Cardiac syndromes:		
Myocardial infarction	22	
Coronary insufficiency	4	
Postinfarction syndrome	3	
Congestive failure	3	
Cor pulmonale	1	
Total	33	36.7
Abdominal syndromes:		
Acute surgical abdomen	2	
Subdiaphragmatic abscess	2	
Primary hepatic disease	2	
Total	6	6.7
Neurologic syndromes:		
Syncope	2	
Convulsions	1	
Hemiplegia	1	
Total	4	4.4
Other manifestations	8	8.9

patterns and mimic many other diseases. Since there are no absolute diagnostic criteria an accumulation of circumstantial evidence must be relied upon to make the diagnosis. Unfortunately, the classical clinical and laboratory features of pulmonary embolism are infrequently encountered.

Clinical evidences. Homan's sign, calf or plantar tenderness, temperature difference in the 2 legs, difference in the size of the veins of the 2 legs, and difference in the circumference of the calves are important physical diagnostic signs of venous thrombosis.[14] A new diagnostic test for phlebitis below the knees has recently been reported.[43]

TABLE 4

Frequency of Symptoms in 90 Patients with Pulmonary Embolism

Graduate Hospital, Philadelphia, 1955–1957

Symptom	No. with Symptom	Per cent
Chest pain	65	72.2
Pleuritic	51	56.7
Anginal	25	27.8
Dyspnea	42	46.7
Abdominal pain	11	12.2
Syncope without pain	2	2.2

The authors suggest inflating a manometer cuff about the thigh to the 4 cm. mercury level. If the pain in the leg increases with the pressure and disappears immediately with the release of pressure, it is their feeling this confirms the diagnosis of phlebitis. Tenderness of the plantar veins or tenderness of the low calf veins on lateral compression may be among the earliest signs of phlebothrombosis.[3] Phlebothrombosis must be diagnosed by an unexplained rise in the temperature and pulse rate, slight increased diameter of the affected calf or thigh, and, in the

TABLE 5

Frequency of Signs in 90 Patients with Pulmonary Embolism

Graduate Hospital, Philadelphia, 1955–1957

Sign	No. with Sign	Per cent
Fever	71	78.9
Rales	57	63.3
Tachycardia	53	58.9
Tachypnea	40	44.4
Hemoptysis	26	28.9
Hypotension	23	25.6
Congestive failure	23	25.6
Friction rub	22	24.4
Rib tenderness	16	17.8
Cyanosis	7	7.8
Jaundice	2	2.2

occasional patient, the anxiety of an impending catastrophe.[31]

X-ray evidence. Informed radiologists may suggest the possibility of pulmonary embolism in 50 to 55 per cent of the patients with pulmonary embolism.[11, 36] The most common X-ray findings are linear markings, not the typical wedge shadow.[11] Approximately 24 to 36 hours must elapse following pulmonary embolism before X-ray films will give their first evidence of pulmonary infarction.[6] The X-ray patterns found in pulmonary embolism may be of several types[30]: (a) with infarction, a truncated cone with the base on one or more pleural surfaces—costal, diaphragmatic, mediastinal or interlobar; (b) without infarction—congestive heart failure, pulmonary edema, pleural effusion, respiratory inhibition (with a high diaphragm and limited excursion, decreased distance from the dome of the diaphragm to the horizontal interlobar fissure, areas of atelectasis, often basal and platelike), pulmonary oligemia with increased translucency. Later the X-ray appearance of pulmonary hypertension with dilatation and increased pulsation of the hilar arteries or chronic cor pulmonale in which the heart resembles mitral stenosis without dilatation of the left atrium may develop.[30]

Electrocardiographic evidence. Electrocardiographic abnormalities may be detected in 70 per cent of patients who are adequately examined.[11] The changes of cor pulmonale were found in 7 cases, transient positional changes occurred in 28, and coronary insufficiency patterns developed in 18. Nevertheless, the electrocardiogram is seldom a great help because so many of the abnormalities are nonspecific. Features that may be found helpful in the diagnosis of pulmonary embolism are: (a) acute cor pulmonale with a large S_1, Q_3T_3, and possibly inverted T waves in the precordial leads; clockwise rotation with tall R waves in the right and prominent S waves in the left precordial leads; (b) sudden appearance, rapid evolution and prompt reversion to normal of nonspecific changes; a normal Q wave in AVF with pulmonary infarction may aid in differentiating it from posterior myocardial infarction in some cases; (c) sudden transient incomplete right bundle-branch block; (d) temporary T-wave inversion in the right precordial leads.[30] The electrocardiographic pattern of acute cor pulmonale was evident in 20 per cent of 273 patients studied by Paul White and his associates.[44]

Serum glutamic oxalacetic transaminase (SGOT). The value of SGOT determinations in the diagnosis of pulmonary embolism or in excluding similar clinical entities is apparently a controversial subject from the reports available in the literature. SGOT determinations were normal in 32 of 49 patients in a recent study. In those showing an elevation, associated disease of the liver, myocardium, or musculoskeletal systems accounted for the elevation in all except 1 case.[11]

SGOT is normal in animals with pulmonary embolism but was found to be elevated in approximately half of men in another study of pulmonary embolism.[45] In 7 of the 8 patients showing elevation of the SGOT, the peak rise was between the third and sixth day with a level of 79, whereas in acute myocardial infarction the mean peak was 26 hours after the onset of the attack and the level was much higher. The SGOT is usually maximal on the second day after a myocardial infarction and falls to normal in 3 to 5 days; however, in 12 per cent of the cases of myocardial infarction the peak SGOT level was after the third day.[46]

Of 12 patients with pulmonary embolism, 11 had normal SGOT levels.[47] One jaundiced patient thought to have pulmonary embolism developed an SGOT level of 78.3. Two of 4 patients with pulmonary embolism showed elevated SGOT levels and 2 normal levels.[46] In certain experimental studies in animals, ligation of the renal, splenic, mesenteric and pulmonary arteries produced an elevation of the SGOT.[48] SGOT may also be elevated in hepatic necrosis, obstructive jaundice, pancreatitis, rheumatic myocarditis and renal infarction.[49] The enzyme SGOT in animal studies is highly concentrated in heart muscle, compared to skeletal muscle, liver, kidney, and brain.

Most observers report normal SGOT values in patients with pulmonary infarction. Values rarely exceed 100, and peak values tend to occur later than with myocardial infarction. SGOT is also elevated in carcinoma of the liver and trauma. It is thought to be excreted through the biliary system.[49]

Some of the problems of diagnosis can be appreciated from the experience of a few current authors on this subject. Of 15 patients diagnosed as having pulmonary embolism from their acute chest pain, dyspnea, syncope and cyanosis,[45] 4 showed the electrocardiographic pattern of acute cor pulmonale and 10 showed acute atrial arrhythmias. Three developed icterus on approximately the fourth day, 5 were diagnosed by X-ray examination, and 5 had hemoptysis. The X-ray appearance and clinical symptoms often departed from the classical concepts.[50] Miller and Berry[51] found only 42 per cent of fatal cases of pulmonary infarction correctly diagnosed clinically. The typical picture of pulmonary infarct was seen in only 15 of their 104 cases. In 14 of the cases none of the so-called classic findings—pleural pain, hemoptysis, dypsnea, or friction rub—were present. Tachycardia, mild dyspnea and reduced blood pressure should be warnings of the possibility of pulmonary embolism and infarction.[51]

Differential Diagnosis

Pulmonary embolism may closely mimic many diseases. Usually, however, careful clinical observation, together with serial electrocardiograms and careful X-ray studies, will permit the diagnosis to be established with a reasonable degree of certainty and other similar clinical entities excluded. Pulmonary embolism may mimic coronary artery disease, postoperative pneumonia, pulmonary neoplasm, or tuberculosis. It may also present as pleurisy with effusion, pneumonia, abscess or empyema. It may simulate an acute surgical abdomen or hepatitis. It may simulate neurologic disease with syncope, vertigo, etc.

Pulmonary embolism may follow myocardial infarction and suggest a recurrent myocardial infarction. It may precipitate or be caused by congestive failure. Various forms of chronic myocarditis must be differentiated from repeated small pulmonary embolizations.[14]

Pneumonia can be suspected when there are high fever, chill, massive consolidation limited to 1 lobe, marked elevation of the white blood cell count, and sputum containing bacteria and white blood cells in the bacterial forms; in the viral pneumonias sputum examination would be expected to show few bacteria and a few mononuclear-type white blood cells.[30] Sputum and blood cultures, specific immunologic tests, and the presence of cold agglutinins may further aid in differentiating certain types of pneumonia. In cases of suspected pulmonary infarction when pneumonia cannot be excluded with reasonable certainty, it is probably preferable to include in the treatment effective administration of antibiotics.

(To be continued)

BIBLIOGRAPHY

1. Gundersen, P.: Nord. med., 1955, **53**, 565.
2. Wise, W. D., Loker, F. F., and Brambel, C. E.: Surg. Gynec. & Obst., 1949, **88**, 486.
3. Pratt, G. H.: S. Clin. North America, 1953, 33, 1229.
4. Cecil, R. L., and others, Editors: A Textbook of Medicine, 9th ed. Philadelphia: Saunders, 1955.
5. Ochsner, A., DeBakey, M. E., DeCamp, P. T., and daRocha, E.: Ann. Surg., 1951, **134**, 405.
6. Castleman, B.: Personal communication (June 1952).
7. Loewe, L. (Brooklyn), Berger, L., and Lasser, R. P.: Angiology, 1951, **2**, 26.
8. Allen, E. V., Hines, E. A., Jr., Kvale, W. F., and Barker, N. W.: Ann. Int. Med., 1947, **27**, 371.
9. Neal, M. P.: J.A.M.A., 1951, **146**, 537.
10. Ochsner, A.: Illinois M. J., 1955, **108**, 213.
11. Israel, H. L., and Goldstein, F.: Ann. Int. Med., 1957, **47**, 202.
12. DeBakey, M. E.: Internat. Abstr. Surg., 1954, **98**, 1; Surg. Gynec. & Obst., January 1954.

(Continued on page 303)

MIXED BACTERIAL PNEUMONIA AND COMBINED ANTIBIOTIC THERAPY[*][†]

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DURING the past year we have encountered 17 patients at the Bethesda Naval Hospital with a diagnosis of lobar or bronchopneumonia whose bacteriologic studies have presented 2 or more significant predominating pathogenic bacteria. The organisms were usually *Streptococcus hemolyticus, Diplococcus pneumonia, Staphylococcus aureus, Hemophilus influenzae, Klebsiella pneumoniae*, and *Pseudomonas aeruginosa*.

The purpose of this paper is to discuss several clinical features of these cases and in particular 2 patients in whom the dissimilarity between blood and sputum cultures was of prime importance. The necessity of combined antibiotic therapy in life-threatening pneumonia will also be emphasized.

At the outset let it be said that the information derived from a careful history, physical examination, routine examination of the blood and urine, and roentgenogram of the chest is vital and may often lead to the correct diagnosis.[1]

In order to establish the etiologic agent in pneumonia bacteriologic studies are of the utmost necessity. We are all familiar with the sputum and blood as the principal source for this investigation. However, the 17 previously mentioned patients demonstrated the need for additional source material; as a group they were generally individuals whose cough was nonproductive and whose blood cultures were negative.

Bronchoscopic washings, the immediate postbronchoscopic sputum, the pleural fluid, and animal, most frequently mice, inoculations offered invaluable diagnostic aid.

Repeated sputum cultures prior to antibiotic therapy revealed different predominating pathogenic bacteria in 11 cases. Bronchoscopic washings and sputum cultures showed different significant pathogens in 8 cases. Postbronchoscopic sputum cultures and initial sputum culture were dissimilar in 6 cases as were pleural fluid and sputum culture in 3 cases, and blood and sputum cultures in 2 cases.

Multiple bacteriologic surveys in which sensitivity studies demonstrated the need for combined antibiotic therapy or that a change in drug regimen was in order were felt to be life-saving in all patients in this series.

If the cause of a pneumonia is not obscure and 1 etiologic agent is incriminated I do not advocate the need for more than 1 appropriate antibiotic, particularly if the organism is a hemolytic streptococcus or a pneumococcus. However, in a severe and extensive bacterial process the responsible bacteria may not be evident for as long as 48 or 72 hours. In this situation when multiple organisms may be involved, or a high index of suspicion of a staphylococcal infection exists, our initial therapy consists of 5 to 40 million units of parenteral penicillin per day plus Benemid to augment penicillin blood levels and Chloromycetin, 0.5 to 1 Gm. every 6 hours.[2] We are well aware of the possible toxic side-effects of Chloromycetin therapy[3] but feel that its use in a desperate clinical situation is indicated. I might add that in our experience where this drug has been used in high dosages for a short period of time no hematologic complications have been observed.

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[*] The opinions or assertions contained herein are those of the author and are not to be construed as official or reflecting the view of the Navy Department or the Naval Service at large.

[†] Delivered at the Ninth Annual Regional Meeting of the American College of Physicians in Washington, D.C., November 1, 1958.

If our patient does not respond to therapy in 48 to 72 hours penicillin is usually discontinued and streptomycin, erythromycin, 1 of the tetracyclines or novobiocin are given as indicated. We do not elect to administer penicillin with erythromycin or novobiocin, since antagonism may exist with these antibiotic combinations.[4, 5]

The argument for multiple antibiotic regimens is supported by the following: (1) the value of penicillin and streptomycin against enterococci,[6] (2) the value of combining streptomycin with dihydrostreptomycin in decreasing the toxicity of each drug which may occur when they are used separately,[6] (3) the combined use of streptomycin, PAS, and isoniazid in decreasing the emergence of resistant tubercle bacilli,[6] (4) the value of streptomycin and the tetracyclines in certain urinary-tract infections,[7] and (5) the value of multiple drugs in staphylococcal and Klebsiella infections when the varied strains of these organisms may have different antibiotic sensitivity.

All of our patients were isolated on a contagious disease ward, and we have not observed an increase in resistant hospital strains in the past year.

The following 2 case presentations will generally summarize our experience with mixed bacterial pneumonia and combined antibiotic therapy.

REPORT OF CASES

Case 1. A 40-year-old white woman was admitted to the hospital with a 2-day history of sore throat, fever, chills, nonproductive cough, and pain in the left side of the chest. Systemic review and past history were noncontributory, except for allergy to penicillin. Physical examination on admission revealed an alert but toxic woman with a temperature of 103.6°F. Positive findings were limited to the left lower lung field posteriorly where there was increased tactile fremitus, dullness to percussion, bronchial breathing, and moist crepitant rales.

Admission laboratory data were negative except for 22,000 white blood cells per cu. mm. of blood and a marked shift to the left on differential count. The X-ray film of the chest (figure 1) revealed consolidation of the left lower lobe.

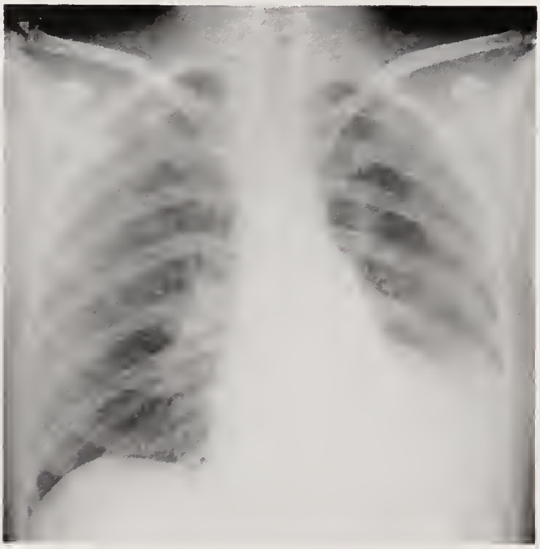

FIG. 1. Left lower lobe consolidation.

Initial therapy consisted of supportive measures including oxygen and intravenous fluids and erythromycin, 1 Gm. intravenously and 2 Gm. by mouth daily. There was no clinical improvement after 48 hours and streptomycin, 1 Gm. daily, was added in order to obtain a wider spectrum of antibiotic coverage. Sputums were not available for culture. Interval X-ray films suggested the possibility of atelectasis and/or pleural effusion at the left base. A bronchoscopy was performed, and a moderate amount of secretion was obtained from the left lower lobe. There was no evidence of tumor, obstruction, or endobronchial disease. A subsequent thoracentesis yielded 200 c.c. of a serous exudate from the left pleural space.

Blood cultures on admission revealed *Streptococcus hemolyticus* and *Streptococcus pyogenes*, sensitive to all antibiotics. Cultures of the bronchial washings and pleural fluid revealed no growth. However, sputum obtained immediately after bronchoscopy yielded hemolytic *Staphylococcus aureus*, resistant to all antibiotics except Chloromycetin and novobiocin. Within 24 hours of high-dose therapy with these 2 drugs the patient became completely afebrile and her condition less critical. An

X-ray film (figure 2) showed only residual pleural reaction at the left base. Subsequent studies for malignancy, tuberculosis, and fungus diseases were negative.

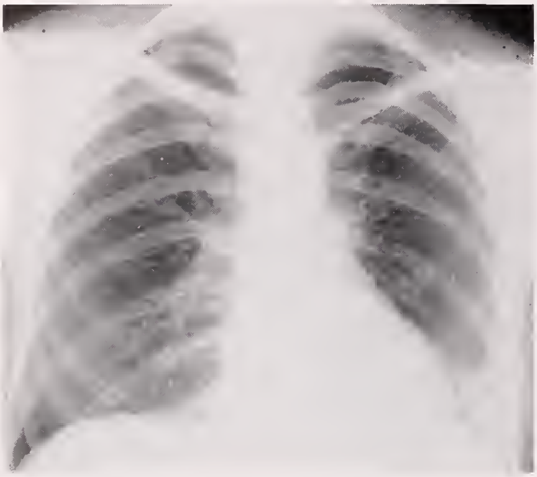

FIG. 2. Residual pleural reaction at left base.

This case demonstrated the value of the postbronchoscopy sputum and the response to combined anti-staphylococcal therapy.

Case 2. A 43-year-old white woman was admitted to the Hospital during the Asian influenza epidemic with a 4-day history of myalgia, productive cough, shortness of breath, chills, fever, diarrhea, nausea, and vomiting. The past history was negative except for smoker's cough. Physical examination revealed a critically ill, dehydrated woman with a temperature of 103.4°F. Respirations were labored and rapid. Both lung fields revealed diffuse inspiratory coarse rales and rhonchi with a greater concentration in the left upper lobe. The remainder of the examination was within normal limits. Admission laboratory data showed a marked leukocytosis with a shift to the left. The X-ray film (figure 3) taken shortly after admission revealed consolidation with cavity formation of the left upper lobe and scattered patchy infiltration throughout the right lung.

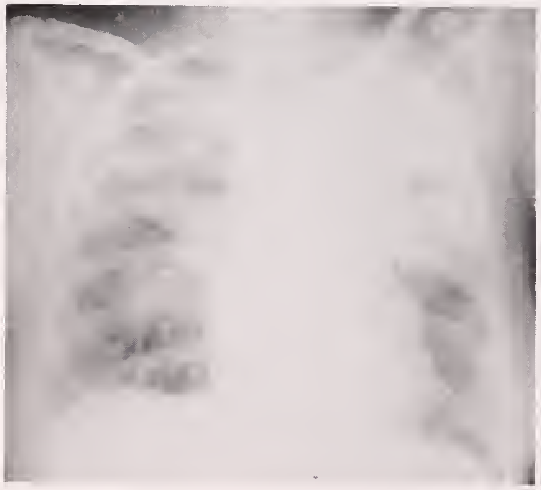

FIG. 3. Consolidation with cavity formation in left upper lobe and patchy infiltration throughout right lung.

Initial therapy consisted of the use of penicillin, streptomycin and sulfadiazine. After 72 hours the patient's condition seemed to deteriorate and she was placed on high doses of penicillin and Chloromycetin.

Blood cultures on admission as well as 1 sputum culture revealed *Diplococcus pneumonia*, group B. However, 11 sputum cultures before or during the early course of therapy revealed *Pseudomonas aeruginosa*. The patient gradually improved on the penicillin and Chloromycetin regimen. Interval X-ray films (figure 4) revealed cavitation in the left upper lobe with the right lung free of recent parenchymal disease. X-ray films several months later (figure 5) revealed fibrotic stranding in the left upper lung field. Tomography showed only residual bronchiectasia in this area. Subsequent studies for tuberculosis, malignancy, and fungus diseases were negative.

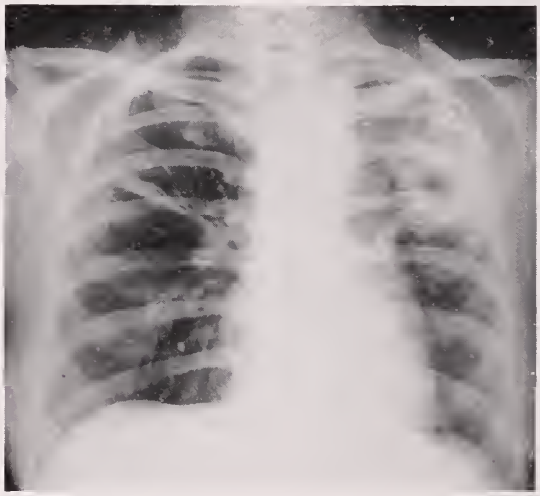

FIG. 4. Cavitation in left upper lobe; right lung free of recent parenchymal disease.

CONCLUSION

The clinical significance of mixed bacterial pneumonia has been stressed. The necessity of bacteriologic study of all source material is urged, with particular reference to the bron-

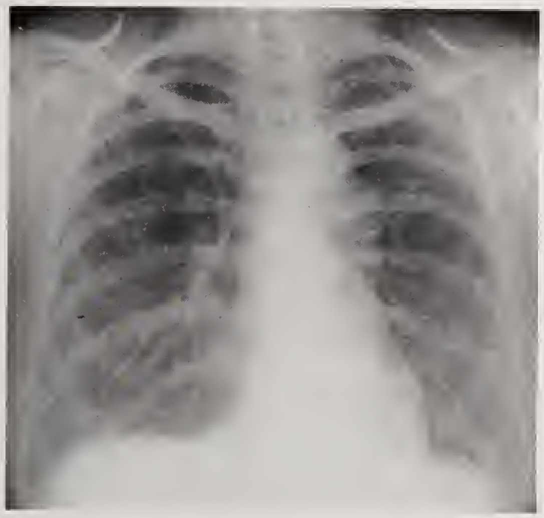

FIG. 5. Fibrotic stranding in left upper lung field several months after therapy.

choscopic washings and immediate postbronchoscopy sputum culture.

These remarks are merely broad generalizations. Each patient presents a special problem in management. It must also be remembered that the supportive measures such as oxygen, intravenous fluids, inhalation therapy, the relief of cough and pain, etc., are necessary adjuncts if a satisfactory result is to be anticipated.

BIBLIOGRAPHY

1. AUSTRIAN, R.: Current status of therapy in the pneumonias. J.A.M.A., 1957, **163**, 1040.
2. PETERSDORF, R. G., CURTIN, J. A., AND BENNETT, I. L., JR.: Sensitivity of 200 strains of hemolytic Staphylococcus to a series of antibiotics. A.M.A. Arch. Int. Med., 1957, **100**, 927.
3. WINTROBE, M.: Clinical Hematology, 4th ed. Philadelphia: Lea, 1956, pp. 564, 566 and 1096.
4. JONES, W. F., JR., AND FINLAND, M.: Antibiotic combinations; antistreptococcal and antistaphylococcal activity of plasma of normal subjects after ingestion of erythromycin or penicillin or both. New England J Med., 1956, **255**, 1019.
5. JONES, W. F., JR., AND FINLAND, M.: Antibiotic combinations; antibacterial action of plasma after ingestion of novobiocin or penicillin G or both. Ibid., 1957, **257**, 1268.
6. Editorial: The clinical use of antibiotics in combination. A.M.A. Arch. Int. Med., 1957, **99**, 536.
7. CARROLL, G., BRENNAN, R. V., AND ALLEN, H.: Combined therapy with oxytetracycline and streptomycin in the treatment of urinary tract infections caused by Pseudomonas organisms, in Antibiotics Annual 1954–1955, edited by H. Welch and F. Marti-Ibañez. New York: M. Encycl., Inc., 1955, p. 959.

GENETIC COUNSELING IN MEDICINE

A New Service for the Community

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MODERN PHYSICIANS are discovering new opportunities in the science of genetics for making substantial contributions to the understanding of disease entities and their pathogenesis. The rapidly expanding universe of neurology has been a particular beneficiary of this development, since a large proportion of the more than 500 diseases known to be genetically determined are in the field of neurology. But all fields of medicine are being illuminated by research in genetics. The knowledge gained from such research has already found wide application in diagnosis and treatment, the detection of heterozygous carriers, the various problems arising from blood genetics, the metabolic etiology of disease, and preventive medicine. It is largely in the context of preventive medicine that genetic counseling, an offshoot of medical genetics, has become increasingly important in family life and community affairs.

The primary function of genetic counseling is to provide people with information regarding the genetic problems they may have in their families. Most requests for counseling are concerned with the probability of inheriting or transmitting certain traits. The practice of genetic counseling, novel as it may seem, is found in such ancient documents as the Scriptures, which prescribe a code for reproductive behavior. Also, through the ages and in our times religious doctrine and civil law have formulated regulations pertaining to marriage. Some of these, in the light of modern knowledge, have a sound scientific basis while others merely reflect social taboos.

Ideally, the family physician should be the best qualified person to give genetic advice. He is versed not only in matters medical but also intimately knows the personalities and needs of his clients. Further, practicing physicians are often approached to give genetic counseling, and the patient expects the physician to provide the same high quality of service in dealing with a problem of heredity as dealing with a medical or surgical problem. Thus, it is the logical role as well as the responsibility of the physician to make the newly accumulated data of genetics available to his clientele. Unfortunately, however, most physicians are untrained in this specialty, and most medical schools remain derelict in not providing a course in the principles of human heredity.

Patients will persist in seeking answers, and they will obtain them, often from well-meaning friends, neighbors, in-laws, and even strangers. Since advice, solicited or otherwise, will be given, the physician should be prepared to provide responsive answers to fulfill the high expectations of the patient who assumes that a problem in heredity in his family is the proper domain for his physician. Too often the physician confronted with a knotty problem in heredity will give a categorical but uninformed answer in order to stem the flow of vexing and unanswerable questions. The patient understandably accepts the opinion as authoritative and implements the doctor's recommendations often to the detriment of the patient and of the community. We have found that iatrogenic complications are sometimes superimposed on genetic problems, for example:

A 28-year-old intelligent man was referred for neurologic examination because of convulsive disorder. His seizures began in childhood and were promptly controlled by medication. Over a period of several years the patient himself gradually reduced and eliminated the medication. He was seizure-free for 15 years. Expecting no further difficulty, he neglected to inform his fiancee of the seizures which had occurred in the remote past. After a year of marriage the patient had a grand mal convulsion. His frightened bride rushed to the family physician for advice. She was informed that epilepsy was inherited. She insisted on sleeping apart from her husband, and when he had another seizure she left him. The perplexed and disconsolate husband finally resigned himself to the dissolution of his marriage and to a bleak future. His only concern at the moment was a prescription for a drug to control his seizures.

The neurologic history revealed that he had suffered a severe injury in childhood. In addition, the neurologic examination showed clinical signs of a right-sided focus. The electroencephalogram was normal. No member of his family nor of the wife's family had seizures nor any other hereditable disease of the central nervous system. The patient was referred for genetic counseling which he eagerly accepted, and later his wife agreed to participate in a program of counseling.

In contrast to the original mismanagement of this case, the following is an instance of effective genetic counseling initiated by the family physician:

A young couple's first child, a girl, was said to be born with a pocket of fluid at the end of her spine, and in spite of surgery the child died at the age of 3 years of hydrocephalus. The mother had a double cousin who had a baby with the same deformities. The couple had been given the unsolicited opinion that all of their other children would be similarly deformed. After consultation with their family physician and referral for genetic counseling it was pointed out that their child's defect was spina bifida with hydrocephalus and that these conditions occur together rather frequently. Once a couple has 1 affected child there is about 1 chance out of 30 that a second child might have a similar deformity. It was also pointed out that there was an increased risk of miscarriage. The couple was urged to base their decision of having further children on the quoted risk figures rather than on the misinformation provided by uninformed laymen. About a year later a small blue card was received announcing the arrival of a perfectly healthy baby boy, and a note of thanks and gratitude for the help provided in their hour of travail.

Not all stories end this happily, but the truth, even though unpleasant, emancipates the prospective parents or relatives from unrealistic hopes or illusions. For example, in one of the cases reported by Stevens and Dekaban[1] exhaustive neurologic investigations disclosed cerebral lipidosis as the cause of retardation in a child. Genetic counseling resulted in the parents' decision to have no further children, and they arranged promptly for the adoption of a child.

It is apparent that genetic counseling is a specialized service beyond the ken of most physicians but indispensable for the scientific management of problems in heredity. In recognition of this generally acknowledged fact a Genetic Counseling Center has been organized at the George Washington University School of Medicine, in the Department of Neurology. Only about a dozen such centers exist in the United States and Canada. This is the first under the auspices of a department of neurology. The objectives of the Center are to provide genetic counseling to persons and families referred by their physicians, to study and improve methods of genetic counseling, and to promote genetic research in various clinical disciplines.

Counseling procedure requires that persons requesting counseling be referred to the Center by their private physician. The physician submits a résumé of the medical and family history with relevant findings and diagnosis. Counseling is always done in consultation and collaboration with the referring physician, and a written report is provided him. Permanent records are kept of all cases, and from time to time these cases will be reviewed to determine the outcome and value of the service. The service is gratis.

As stated, the problems do not have to be related to neurologic disease. Problems in almost every field of medicine have been encountered, particularly in pediatrics, obstetrics, orthopedics, and ophthalmology. An example of the last is interesting:

> A 42-year-old physician referred himself for premarital counseling. He was engaged to a girl whose sister had retinitis pigmentosa and whose grandmother had some unidentified eye disease. His ophthalmologist told him that the chances of having affected children if he married this girl would be 1 in 4. The physician considered this implausible and sought genetic counseling. It was explained to him that although retinitis pigmentosa is usually inherited as a recessive trait, frequently it follows some other modes of inheritance. Since the physician had already done an exhaustive investigation of his fiancee's family and failed to reveal any more cases, the pattern of transmission was considered to be recessive. His own family, as far as he could tell, was entirely free from the trait. It was explained to him that the chances that his fiancee had inherited 1 recessive gene for the disease were 2 out of 3; the chances that he himself was a carrier would be about 1 in 50, since the frequency of the disease in the population is 1 in 10,000. Therefore, the chances that they would have an affected child would be $\frac{2}{3} \times \frac{1}{50} \times \frac{1}{4}$, or 1 in 300. The physician went away "happier and wiser" and promised to send us a wedding invitation.

Marital, legal, theologic, and complicated sociologic issues are often introjected into an already complex problem and demand consummate tact and a unique training and orientation. In addition to a sound knowledge of human genetics and medicine it is necessary that the genetic counselor have a deep respect for the sensitivities and temperaments of his clients. Further, the genetic counselor needs to have close and easy rapport with the family physician in order to explore adequately the genetic problem and its reverberations, before and after the interview. The following case exemplifies some of the complexities:

> An attractive 24-year-old woman divorced her husband, an alcoholic wastrel. She had 2 children. The younger, a boy, had progressive muscular dystrophy of the facioscapulohumeral type. The mother was eager to remarry and have more children, but she emphatically refused to suffer the emotional and financial burdens which came with her boy's affliction. Should she remarry, and should she have other children?
>
> The facioscapulohumeral type of muscular dystrophy is usually inherited as a dominant, sometimes with incomplete penetrance. In this case the early age of onset in the boy and the apparent absence of a positive family history made further investigation mandatory before counseling could be given. Thus, careful examination of the parents and siblings of the affected individual was of the greatest importance in view of the frequent occurrence of abortive cases. In addition, thorough search into the family history was essential to explore the possibility of some other mode of inheritance.
>
> If the trait behaved as a dominant, it would be of prime importance to know whether the transmission was through the father's family or through the mother's family. If it were through the mother's family the chances of the mother having another affected child from the second marriage would remain 1 in 2. If, however, the disease were transmitted through the father the chances of her having an affected child from the second marriage would be practically nil.
>
> An investigation of the mother's family failed to reveal any additional cases of muscular dystrophy. The mother and sibling of the patient were given a careful neurologic examination, which was negative in both cases. The father could not be located for a neurologic examination, but from the history there was no definite evidence that he or his family was affected.
>
> It was possible to exclude sex-linkage in this case but not dominant or recessive transmission. The mother, after careful consideration of the chances which were explained to her, decided to marry and have children.

As stated, the Genetic Counseling Center will also organize and tabulate research data which, over a period of years, it is hoped, will help illuminate some of the uncertain spheres of medical genetics.

It is hoped that the physicians of this area will utilize the counseling service and collaborate with the Counseling Center's research endeavors.

SUMMARY

Genetic counseling, a new discipline, has

(*Continued on page 304*)

COÖRDINATIVE ORTHOPEDIC SURGERY FOR THE HEMIPLEGIC PATIENT

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THE INDIVIDUAL who has had the misfortune to have developed a paralysis of one or more extremities as a result of intracranial hemorrhage or avascular cerebral infarction can be helped toward rehabilitation by a relatively minor surgical procedure done under local anesthesia. The individual with hemiplegia has a distressing deformity because of the overaction of the nonparalyzed muscles opposing those that are paralyzed. Or it may be that those muscles that are affected by spastic paralysis have greater strength than the normal muscles and again cause a deformity. Either condition can exist. Those muscles that are functioning are doing so with powerful contractures, foreshortening the muscle length into a permanent state of deforming contracture.

In the paralyzed upper extremity the arm is held in adduction from the shoulder joint. The elbow is held at 90 degrees of flexion. The wrist and the hand are held in acute flexion with some external rotation. The fingers are in full extension. This deformity is one that is distressingly useless. It is extremely difficult for the patient to use such an extremity in any functioning capacity. The extended fingers cannot be flexed to grasp because the wrist and hand are in acute flexion. The extended position of the fingers is because of the stretch position on the extensor tendons and their muscles. The extensor muscles may be paralyzed and unable to oppose the strong flexors, or the flexor muscles may have a spastic stimulation and the normal extensor muscles be unable to oppose them. The patient cannot put on a coat comfortably. It is difficult to get his arm through a sleeve. The extremity is absolutely a useless member in this position of dysfunction.

In like manner, when the lower extremity is involved there is usually an equinus gait due to the overactivity of the gastrocnemius-soleus muscle groups which are stronger than the antagonists or the dorsiflexor muscles. The patient is forced to walk on his toe with his knee bent. His extremity is in slight internal rotation with some flexion-adduction deformity of the hip. Again his gait is very poor. He has to walk on his forefoot. He drags his toe along the ground. The use of a cane or crutch helps, but as he attempts to lift the adducted leg by flexing the hip and the knee, the affected extremity crosses the opposite leg. The patient has difficulty in walking. The patient may even fall because of this almost cross-legged or half-scissor position of the paralyzed member.

Operative procedures aimed at the muscles themselves or the tendons have been proven to be useless. There is no point in lengthening tendons that will continue to foreshorten by contracture. There is no point in shifting origins of muscles when they are still in the state of spasm and contracture. The approach is through the same channels which caused the deformity, that is, through the nerves supplying the individual muscles which are in an acute stage of contracture.

The Stoffel operation has been used in congenital spastic paralysis for many years.[1] This operation was first described by Dr. Stoffel in 1913 and has been most successful when its use has been directed toward those spastic patients who needed it to relieve overactive muscle pulls against weak antagonistic muscle groups. The fortunate thing about the operation is that it can be done under local anesthesia in the adult older age group of patients. These patients are brought into the operating room without being admitted to the hospital other than for the purposes of surgery and do not remain overnight. This aids a great deal in treating elderly patients who should be kept in their normal environment and on their feet as much as possible. Secondly, only local anesthesia is needed in the skin. The nerves themselves are not sensitive to pain. It is possible to identify the nerve trunks to which one makes an effort to perform a Stoffel procedure. This procedure is one of disruption of the small nerve branch or branches as they leave the main trunk to enter the muscle proper. The procedure has been described in the orthopedic surgical literature[2] and needs not to be repeated here.

The Stoffel operation is most useful in the upper extremity. The surgeon approaches the median nerve in the antecubital fossa. Under local anesthesia the nerve itself is not difficult to find. The nerve branches are identified. These branches are avulsed from the muscle bellies with careful dissection along the nerve itself in order to find those that enter into the muscle involved in producing the deforming contracture. The most commonly involved muscles are the flexor carpi radialis, flexor carpi ulnaris, and the flexor sublimis and profundus. The number of the nerve branches to the muscles to be removed must be determined. Only sufficient function is destroyed to allow the antagonistic groups of muscles to pull the member into the proper position of function again. The added value of the local anesthetic is seen instantly here because the patient can coöperate and can move the extremity at operation and demonstrate the accurate muscle balance that is desirable.

I have done this procedure on a number of hemiplegic patients in an effort to restore them to a more normal life and good function of the extremities. It has been found in the upper extremity, for example, that sufficient power can easily be removed from the flexor group by taking some of the branches off the median nerve to the flexors of the wrist and fingers, a sufficient number to give the patient an adequate grip being left. The grip will not be as powerful as normal but will be a useful one and one he has not had since his paralytic attack causing the deformity. The patient can voluntarily bring the wrist into dorsiflexion and voluntarily bring the fingers into flexion so that he has a useful hand and a useful grip. Patients that have been operated on have used fishing rods, brooms, and ordinary light type of handwork equipment. This is altogether suitable for individuals who have had a cerebral accident. There is sufficient grip for eating comfortably, playing chess, writing letters, and doing other maneuvers.

In like manner, by removing the branches to the gastrocnemius-soleus muscle groups the dorsiflexors of the foot again take over. The patient can dorsiflex the foot. There is still sufficient power so that the patient can walk with an almost normal gait. He can come forward on his forefoot with the pull of the gastrocnemius and soleus. The heel will strike the ground comfortably.

These patients are often actively engaged in some type of gainful occupation. In those male patients who refuse surgery it may be necessary that they have a brace. This brace should be nonapparent and should aid in walking. Patients who have a foot drop because of the overaction of the gastrocnemius-soleus group and have refused surgery may gain some form of support from the brace. Their balance of power is not correct, and a disappearing type of foot brace has been designed for them. I first designed this brace for male patients with anterior poliomyelitis who had stable ankles and needed a short leg brace to prevent foot drop. This was named the "Nonapparent Foot Brace." It is a short leg brace. The Klonzak jointed bar

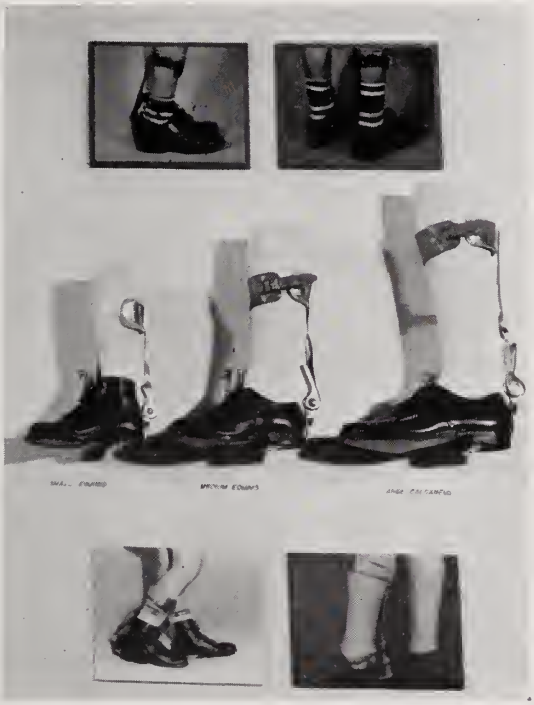

FIG. 1. Nonapparent drop-foot brace.

comes posteriorly down the leg under the back portion of the trouser leg. It covers the brace so that it cannot be seen even at its attachment to the shoe in the heel (figure 1). The Klonzak spring is sufficient to bring the foot forward to correct foot drop. The reverse action is also true with the disappearing foot brace. The Klonzak spring joint may be turned around when it is put on the shoe for the patient who has too little power in the gastrocnemius-soleus group to come forward on his forefoot and needs a boost for the take-off in walking. Also, if too much muscle power has been removed at surgery the brace may be used to increase the strength of the gastrocnemius-soleus group. The actual power delivered by the spring in the brace is adjustable to suit the patient's need either for an equinus deformity to correct foot drop or to increase the take-off power for the paralyzed gastrocnemius-soleus muscles. This will help the patient to walk without a limp and without a noticeable support.

In conclusion, some 23 patients have been treated by 1 or several Stoffel procedures aimed at correcting the deformities of the upper and lower extremities as a result of cerebral hemorrhage and spastic paralysis of the extremities. This restores the useful function of the extremity by adapting the Stoffel operation to older patients in order to relieve their disabling deformities. It is a direct approach. It is a successful approach, one done under local anesthesia, and one not requiring the patient to remain in the hospital overnight or disrupting the patient's mode of living. Added to this is the support of a nonapparent type of foot brace that either aids in the activation of the foot or supports the foot and prevents foot drop.

BIBLIOGRAPHY

1. Stoffel, A.: Treatment of spastic contractures. Am. J. Orthop. Surg., Phila., 1912–13, **10**, 611.
2. Campbell, W. C.: Campbell's Operative Orthopedics, 2nd ed. St. Louis: Mosby, 1949, **2**, 1474–5.

UROLOGICAL CONDITIONS SIMULATING INTRA-ABDOMINAL DISEASE

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PATHOLOGIC LESIONS originating in the genitourinary tract frequently manifest themselves clinically as lesions arising in one of the intra-abdominal organs. These clinical manifestations mimic lesions within the peritoneal cavity so often that it is not infrequent that the true diagnosis is made only after some form of abdominal surgery has been performed. It was once stated by Cabot that the most common operation for a stone in the right ureter is appendectomy. Because of the widespread use of the microscope and the more frequent utilization of excretory urography this statement is no longer true. Nevertheless, we still see an occasional appendix removed when the lesion is in the right ureter. It should be remembered that when there are both urologic and abdominal symptoms the abdominal symptoms frequently overshadow the urologic symptoms. In from 30 to 40 per cent of cases of urologic disease the symptoms and signs are abdominal and not genitourinary, and less than 50 per cent of patients with urologic lesions exhibit classical genitourinary symptoms.

What is the reason that a lesion within the genitourinary tract manifests itself without typical urologic symptoms, or with only minimal symptoms pertaining directly to the lesion, but with reflex symptoms which are predominately abdominal in nature? First, let us recall the nerve supply to these 2 anatomic systems.

The abdominal viscera receive their nerve supply from the autonomic system. The parasympathetic component is supplied by the vagus nerve, which descends into the body cavities by way of the esophageal plexus, where it supplies fibers not only to the esophagus, but to the bronchial tree, the myocardium, and the stomach. The remaining fibers then pass through the celiac ganglion located at the level of the twelfth thoracic vertebra immediately inferior to the crura of the diaphragm. From the celiac ganglion, fibers pass to the liver, gallbladder, common bile duct, pancreas, spleen, adrenals, kidneys, ureters, small intestines, and the large intestine as far as the splenic flexure. The parasympathetic supply for the remainder of the large bowel, the bladder, the prostate and the seminal vesicles is supplied by the nervi erigenti arising from the second, third and fourth sacral segments.

The sympathetic supply to the abdominal viscera is supplied by the great splanchnic nerve (T5 to T9), the lesser splanchnic nerve (T10 to T11), and the least splanchnic nerve (T12). These nerves likewise enter the celiac ganglion with some of the fibers entering the superior mesenteric ganglion and the inferior mesenteric ganglion. The post-ganglionic fibers from the above ganglia supply sympathetic fibers to the stomach, small and large bowel, liver, gallbladder, common bile duct, pancreas, spleen, kidneys, ureters, urinary bladder and prostate. Although the autonomic system is mainly efferent in function, the sympathetic nerves contain afferent or pain fibers. In addition to the above nerve supply the kidneys and ureters may transmit stimuli by way of the somatic nerve fibers in the parietal peritoneum, which is in close association to these organs.

Next let us consider the similarity in the anatomy of these 2 systems.[1] Both the genitourinary tract and the intra-abdominal viscera are composed of both hollow and solid organs. The hollow organs are composed of smooth muscular tubes, which in turn are supplied both by the sympathetic and parasympathetic nervous systems and whose functions are secretory, excretory, or absorptive. The solid organs also have a similar function. However, the solid organs are encased in a comparatively unyielding fibrous capsule, while the hollow organs are elastic and yield to increase in pressure. Since the anatomic features of both systems are quite similar, and because the celiac ganglion acts as a common dispatcher of nervous impulses, it becomes more understandable why disease in one system can mimic disease in another.

The chief symptom in diseases of the urologic and intraperitoneal organs is pain. The pain is due to involvement of either the sympathetic or somatic nervous systems. Pain is produced primarily by obstruction, which may be acute or chronic in character. Pain in the solid organs is produced by obstruction, which may be caused by infection within the parenchyma, neoplasms, or obstruction in the tubular components, which distend the resistant fibrous capsule. The character of the pain is dull and more or less continuous. Because the hollow viscera are endowed with peristaltic activity, obstruction of these structures is characteristically colicky or intermittent. There may be considerable overlapping in the 2 types of pain, depending upon the rapidity with which the obstruction occurs, and the retrograde distention of the involved organs.

Manifestations of gastrointestinal disease may be nausea, vomiting, epigastric distress, belching, abdominal distention, pain, constipation, diarrhea, abdominal rigidity, fever and leukocytosis. It is apparent from what has been said that any disease of the urologic tract, from the kidneys to the prostate, may mimic any of the various signs or symptoms mentioned above. This becomes increasingly true when the typical signs and symptoms are minimal or lacking in urologic disorders.

A few symptoms may help differentiate acute lesions in the genitourinary tract from those in the peritoneal cavity.[2] One must remember that a sudden occlusion of a ureter may result in absent drainage from the involved side with resultant normal urine analysis. Nausea and vomiting are less common and less protracted in acute renal lesions than in intra-abdominal lesions. Muscle spasm, when present, has a greater diagnostic significance for intra-abdominal disease than pain or tenderness. If infection is present, fever is higher in urinary tract disease than in intra-abdominal lesions, while the pulse rate is lower than in renal infections. The white blood cell count is higher in urologic infections and remains more stable than in abdominal disease unless the latter is associated with perforation.

Urologic diseases that may produce intra-abdominal symptoms are (1) hydronephrosis (aberrant vessel, congenital stenosis, or renal calculus), (2) kinking of the ureter (ptosis or torsion of the renal pedicle), (3) acute pyelonephritis, (4) cortical or perinephritic abscess, (5) ureteral calculi, (6) ureteral stricture, (7) acute or chronic nephritis, (8) tabetic renal crisis, (9) seminal vesiculitis, (10) ureterocele, and (11) bladder diverticulum.

Certain urologic conditions may simulate abdominal tumors. These include (1) unilateral or bilateral renal ectopia, (2) horseshoe kidneys, (3) crossed ectopia, (4) hydronephrosis, (5) ptosis, (6) polycystic kidneys, and (7) large solitary cyst of a kidney.

The more common intra-abdominal conditions that are frequently mimicked by urologic disease are: (1) peptic ulcer, (2) acute or chronic cholecystitis with or without cholelithiasis, (3) pancreatitis, (4) acute appendicitis, (5) diverticulitis, (6) salpingitis, (7) pain due to retroversion of the uterus, and (8) ovarian cyst.

The laboratory investigations that aid in the diagnosis of the above-named conditions are roentgenography including the excretory urogram, greater significance to the microscopic urine analysis with emphasis on microscopic hematuria, retrograde pyelography when indicated, cholecystograms, gastrointestinal studies, and a routine blood cell count. Technically speaking, when urologic and gastrointestinal studies are planned, it is better to complete the urologic studies first because of the retention of barium sulfate in the gastrointestinal tract.

Other than a urine analysis, the excretory urogram is by far the simplest, most rapid and useful test in determining suspected urologic disease and many times may be done prior to abdominal operation in acute cases. Most of these patients are already dehydrated, and it is not always necessary to cleanse the colon to produce diagnostic films. The most important finding revealed in excretory urograms pertains to kidney function and the presence or absence of obstruction within the urinary tract. The test may be done by any physician who has the facilities available.

When one considers the relative safety of intravenous injections of radiopaque dye for excretory urography in comparison to the safety of blood transfusions and general anesthesia, there should be little hesitation for such a laboratory examination.[3] Active asthma and a history of allergies are the main contraindications. Deaths from blood transfusions have been reported as 1 in 1,000 to 3,000. Deaths from general anesthesia have been reported by various authors and vary from 1 in 500 to 1 in 2,000. Deaths from injection of radiopaque dye have been recorded as less than 1 per 100,000.[4]

ILLUSTRATIVE CASES

Case 1 (No. 2-5804). E. T., aged 21 months, was admitted to Children's Hospital on September 26, 1952, with a history of vomiting of 1 day's duration. The child vomited each of his meals but immediately went back to playing. There were no chills, fever, or urinary symptoms. There was no diarrhea or melena. The temperature on admission was 100°F. The child appeared healthy and in no acute distress. A small palpable mass was noted in the right lower quadrant, which was movable, firm and nontender. The abdomen was soft, and peristalsis was normal. Urinalysis and blood studies were normal, as was a barium enema. A preoperative diagnosis of ileoileal intussusception was made. Abdominal exploration was performed on the day after admission. An ectopia of the right kidney plus a mild mesenteric adenitis was found (figure 1). The appendix was removed and was normal.

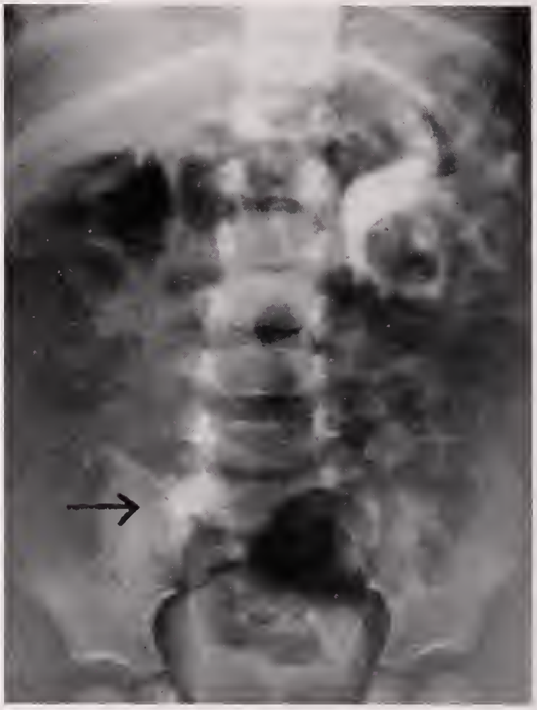

FIG. 1. Case 1. Excretory urogram after abdominal exploration, demonstrating ectopic right kidney.

Case 2 (No. 1618). Mrs. M. D. A., aged 50, was admitted to Doctors Hospital on April 9, 1956 because of pain in the right side of the abdomen that radiated to the right lower quadrant. The pain was intermittent and had been present off and on since December, 1955. There was also burning on urination. The patient had had a hysterectomy in 1953 and an appendectomy in 1927. Urinalysis revealed 4 to 8 red blood cells, 4 to 8 white blood cells, and 2 plus albumin. The hemoglobin was 12.9 Gm., and a white blood cell count was 6,800. A cholecystogram manifested a functioning gallbladder containing a solitary stone and also a solitary stone in the right kidney (figure 2). There was no intolerance to foods. On April 10, 1956 a cholecystectomy was performed. Following the operation the patient's symptoms persisted, making her postoperative course very uncomfortable. Over the next

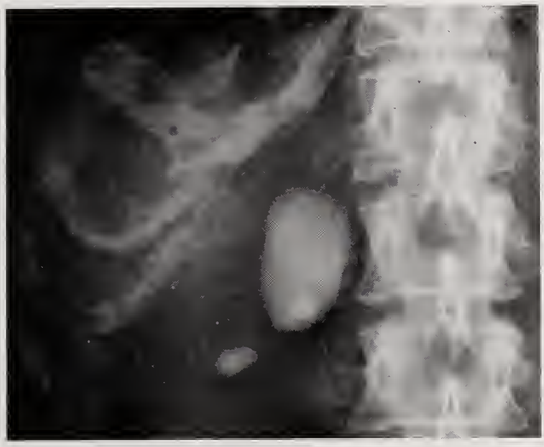

Fig. 2. Case 2. Cholecystogram manifesting stone in normally filled gallbladder and a second stone in right kidney.

several months she failed to obtain relief. She was admitted to Providence Hospital on February 1, 1957, for a right pyelolithotomy, which relieved her pain entirely. The patient purposely postponed her kidney operation because of the discomfort following her cholecystectomy. Although this patient had both right kidney and gallbladder disease, the gallbladder stone did not produce symptoms.

Case 3 (No. 5726). Mrs. F. M., aged 54, was admitted to Providence Hospital on July 10, 1954, with an admitting diagnosis of ruptured appendix. On the night before admission she was awakened by right abdominal pain. The pain was sharp at the onset, then became dull and localized in the right lower quadrant. Nausea and vomiting were present with the onset of pain. The last bowel evacuation was 2 days prior to admission and was diarrheal. There had been no previous operations or urinary symptoms. Examination revealed a globular protrusion in the right lower quadrant, which was very tender and rigid to palpation. The remainder of the abdominal wall was thin and flat. Peristalsis was hyperactive. The urine was loaded with white blood cells; there were no red blood cells; there was 2 plus albumin. The white blood cell count was 17,200 with 81 per cent segmented forms and 2 per cent band forms. The hemoglobin was 11.3 Gm. and the hematocrit 35 per cent. An immediate preoperative diagnosis was appendiceal abscess, abdominal or retroperitoneal tumor. At the operation a large, right hydronephrotic kidney was found and removed. At the time of surgery the left kidney was thought to be normal in size, but a subsequent excretory urogram revealed the left renal pelvis to be dilated and rotated. On retrograde pyelograms the left ureter was found to be kinked and narrow in its upper third, preventing the catheter from going beyond the fourth lumbar vertebra (figure 3). A subsequent left pyeloureteroplasty was performed on September 24, 1954 with good results, the cause of the obstruction being a stenotic area in the ureter approximately 2 cm. in length (figure 4).

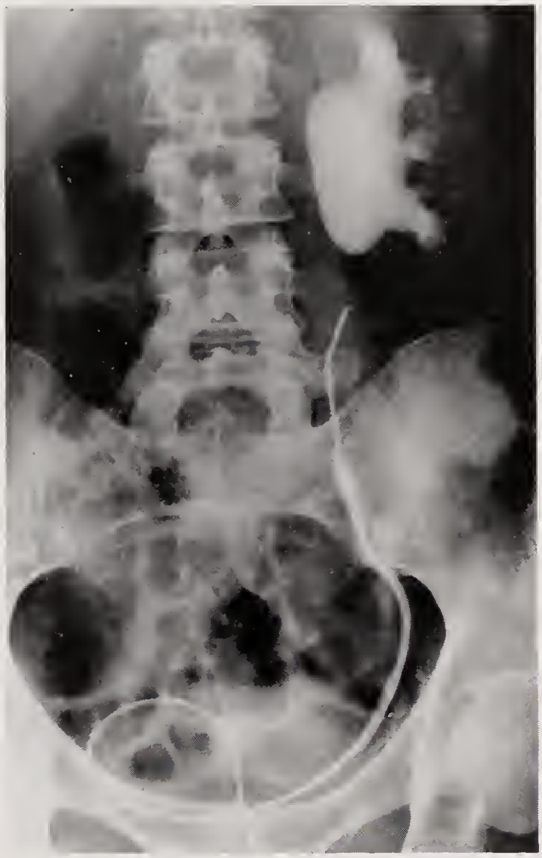

Fig. 3. Case 3. Retrograde pyelogram after a right nephrectomy demonstrating extent of hydronephrosis in opposite kidney. Catheter would not enter kidney because of elongated stricture in the upper ureter.

Case 4 (No. 2939). Mrs. P. M. W., aged 33, was admitted to Providence Hospital on April 15, 1956, for acute appendicitis. On the morning of admission she developed nausea, vomiting and right lower quadrant pain. Frequency of urination had been present for 2 days. There was no gross hematuria or pyuria. There was tenderness over McBurney's point to deep palpation but no rebound tenderness. Bowel sounds were normal. Pelvic examination revealed an anteflexed uterus, which became painful on moving. There was pain on pressure in the right adnexa with a questionable cystic mass palpable in this area. The patient had just completed her menses. Her temperature on admission was 98°.

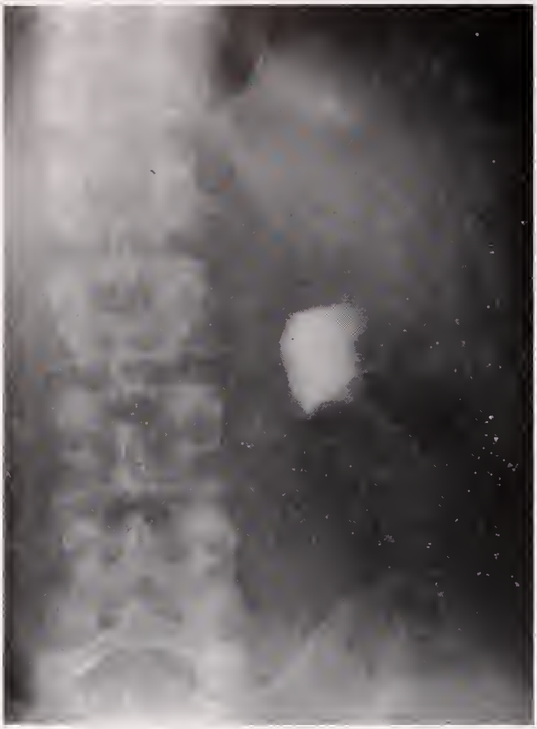

Fig. 4. Case 3. Excretory urogram of same kidney following pyeloureteroplasty.

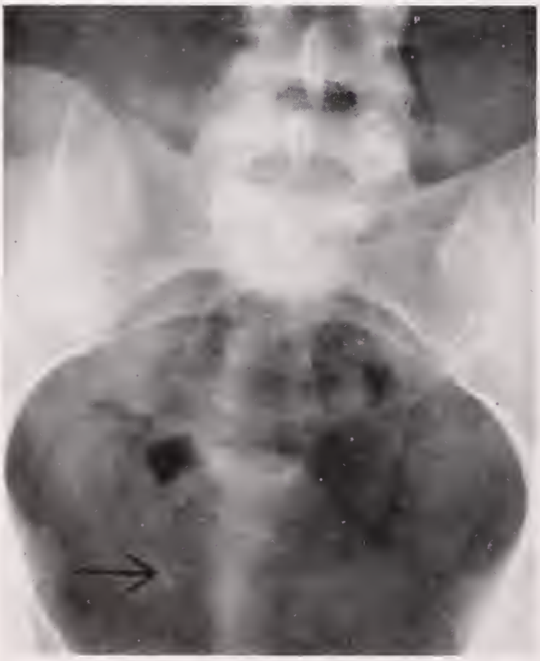

Fig. 5. Case 4. Flat plate of the abdomen demonstrating calculus in region of right ureterovesical juncture.

Urinalysis showed many red blood cells and 1 to 3 white blood cells. The white blood cell count was 19,100, with 92 per cent segmented forms and 5 per cent band forms. The hemoglobin was 13.3 Gm., the hematocrit 38 per cent. On the night of admission an appendectomy was scheduled, but at surgery a right hydro-ureter was found. The appendix was normal and not removed. A small ovarian cyst was present, and this was punctured. The ureter was opened, but the calculus was too near the bladder to be reached (figure 5). The peritoneum was closed and a Penrose drain inserted retroperitoneally. A subsequent excretory urogram demonstrated a calculus in the right lower ureter (figure 6), which eventually passed after the ureteral orifice was dilated with an indwelling ureteral catheter. This patient was fortunate in not developing peritonitis, since the dilated ureter was opened transperitoneally.

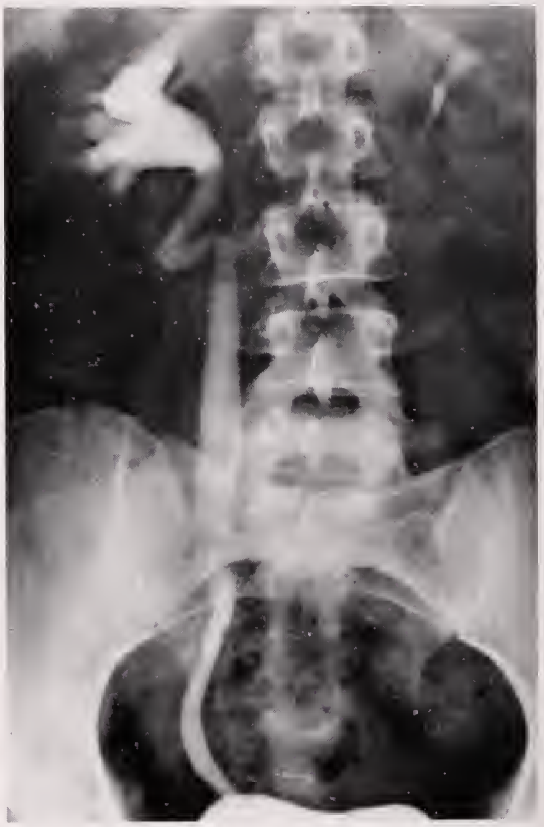

Fig. 6. Case 4. Excretory urogram showing dilatation of right ureter and renal pelvis (calculus is obscured by dye in the bladder).

Case 5 (No. 7704). E. A. W., aged 31, was admitted to Providence Hospital on October 29, 1956 for "acute appendicitis." One week prior to admission she had developed severe right lower quadrant pain that lasted 2 days, then subsided. Two days prior to admission pain again developed in the right lower quadrant, which did not radiate. There was no nausea, vomiting, chills or fever. There was marked right lower quadrant tenderness with rebound. Otherwise the abdomen was soft, and the remaining quadrants were not tender. The urine showed many red blood cells. A white blood cell count was 8,200, with 58 per cent segmented forms and 5 per cent band forms. The hemoglobin was 13.7 Gm. Appendectomy was performed on the day after admission. The appendix was not inflamed, but the patient's symptoms subsided in the hospital. After leaving the hospital she developed a constant pain in the right side of the abdomen, which eventually radiated to the right lumbar area. There were no urinary symptoms. A subsequent barium enema was normal, but a stone was found in the right kidney with the location substantiated by an excretory urogram (figure 7). The patient was readmitted to the hospital, where a right pyelolithotomy was performed, which relieved her symptoms.

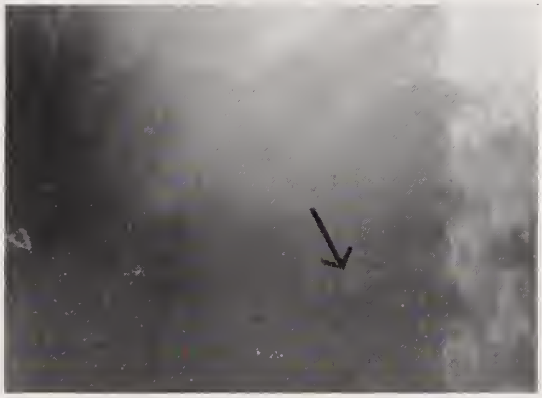

FIG. 7. Case 5. Flat plate of abdomen demonstrating calculus in right kidney confirmed by excretory urography.

SUMMARY

Pathologic lesions originating in the genitourinary tract frequently present themselves as arising within the peritoneum. The reason for this mimicry has been explained on the basis of the celiac ganglion acting as a "common dispatcher" of impulses, and on the similarity of the anatomic features of the gastrointestinal and genitourinary systems.

Five representative cases have been presented to demonstrate the mimicry of the 2 systems.

BIBLIOGRAPHY

1. BROWN, P. W., AND WAKEFIELD, E. G.: Gastrointestinal manifestations of urinary disease and urinary manifestations of gastrointestinal disease. Pennsylvania M. J., 1939, **42,** 1309.
2. GAGE, M., AND FLOYD, J. B., JR.: Unnecessary abdominal operations for pathologic lesions of the genitourinary tract. S. Clin. North America, 1946, **26,** 1247.
3. CRISP, W. E.: One pint of blood; an editorial. Obst. & Gynec., 1956, **7,** 216.
4. PENDERGRASS, E. P., AND OTHERS: Further consideration of deaths and unfavorable sequelae following administration of contrast media in urography in United States. Am. J. Roentgenol., 1955, **74,** 262.

OTHER REFERENCES

CAMPBELL, M. F.: Abdominal pain of urologic origin in children. J. M. Soc. New Jersey, 1942, **39,** 427.

KRUSE, F. H., AND HERRMANN, W. W.: Hunner's ulcer as unsuspected cause of gastrointestinal symptoms. California & West. Med., 1939, **50,** 363.

LINTGEN, C.: Incidence of ureteral stricture in lower abdominal pain in women. Am. J. Obst. & Gynec., 1937, **33,** 636.

MENDELSON, R. W.: Gastrointestinal manifestations incident to diseases of kidney. Urol. & Cutan. Rev., 1942, **46,** 361.

HEADACHE IN CHILDREN

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HEADACHE in children differs very little from headache occurring in later life. This subject seems to be an enigma in pediatric practice, possibly due to the fact that very little attention has been paid to migraine in this age group, so that many cases may have gone unrecognized and untreated. Though the syndrome has indeed been neglected, several illuminating studies have recently been reported in the pediatric and general medical literature[1-12] to help correct this situation.

Vahlquist and Hackzell[1] find that migraine may appear in the first years of life; however, it is often difficult to elicit information from children regarding flicker scotomata and subjective symptoms such as headache. They also point out that each attack is of shorter duration, that the clinical picture is less varied, and that nausea occurs more consistently, often associated with a severe and protracted, projectile type of vomiting. This may account for the diagnosis of cyclic vomiting, which is frequently made without even considering the migraine syndrome.

Cyclic vomiting as a variant of epilepsy in children has been discussed by Millichap, Lombroso and Lennox.[2] Of note was the fact that 12 of the 14 children treated with anticonvulsant drugs were benefited; in 6 of these, vomiting attacks were entirely controlled, and in the remaining 6 there was partial control. However, Cafergot, in either tablet or suppository form, provided control of the individual attack when given in a dose of ½ to 1 tablet or suppository, repeated, if necessary, after 1 hour. The specificity of this agent in the treatment of migraine suggests that one should not overlook the diagnosis of migraine in such cases, since vomiting may be considered an integral part of this syndrome in children.[3]

Burke and Peters[4] noted several striking features in their group of 92 children, 63 of whom were boys. Unilateral headaches were unusual, and nausea and vomiting were frequent and severe, but visual disturbances were less frequent than in adults. In 26 children the attacks were associated with emotional factors, such as excitement, examinations and family friction. There were associated neurologic abnormalities in 18 children, but 17 of these had no existing convulsive disorders. Antihistaminic drugs were less effective than aspirin, Cafergot and anticonvulsant drugs. Correction of ocular refractive errors and ear, nose and throat disorders was also an important factor in management.

Friedman[5] and his co-workers have pointed out that in 100 children with migraine ranging in age from 3 to 15 years, 3 of every 4 children complained of headaches before the age of 9. A history of headaches was noted in 85 per cent of the parents, while, in contrast to other reports, a family history of epilepsy was negligible. The headache itself was less severe, but abdominal complaints were more prominent than in adults. Unlike the later age groups, there was no appreciable difference in incidence in the 2 sexes. A careful search was made for other factors such as systemic disorders and allergy, but in general, physical and neurologic examinations in children with migraine were not noteworthy. In 40 per cent of the cases headaches were preceded by either gastric, psychologic, or visual symptoms.

In our experience a variety of autonomic disturbances, such as sweating, chilly sensations, pallor and gastrointestinal symptoms, were likely to occur with, or at times even without, actual headache. The role of psychologic factors in these children and in their parents is paramount. In most instances, headache in children seems to be related to their inability to express hostility toward authoritative figures, such as parents and teachers. As a matter of fact, this interplay of psychologic factors appears to be more direct and more readily discernible if one takes the time to interview the child and parents separately and together. Usually 1 parent is well aware of the situation and will draw these factors to the physician's attention if given the chance. It is obvious, therefore, that prophylactic therapy is important in reducing the frequency and severity of attacks.

This therapy begins with the first visit of the parents and the child to the physician. The parents' overconcern about a sick child, and whether the attacks represent epilepsy, brain tumor or other neurologic disorders make it mandatory to carry out a thorough investigation of the child to rule out organic trouble. Once we are sure that there is no organic basis for the headache, we must waste no time in explaining this forcibly and thoroughly to the parents, because the parents' reaction to the child's illness is often such that many emotional and psychologic complexes are built up. Feelings of anxiety and tension tend to make them overprotective and overanxious about the child, and, in a way, they "smother" the child. Once we are sure that we have removed cancerophobia and other organophobias from the parents' thinking, our next step should be a thorough discussion of pathophysiology and psychodynamics of headache with the parents and with the child if he is old enough to understand. Even though we know the role of muscle contraction, vasodilation and edema of the vascular walls in production of headache,[13] we still do not know why one person is subject to headache and another is not. All of the physical examinations and psychologic studies possible will not give us this answer, and this should be understood by the parents. However, once a child shows susceptibility to migraine, the family should be aware of this and realize that attacks will come under certain circumstances and that treatment, properly directed, will reduce them. Once the pattern of headache is set up, it is true that different factors may precipitate another attack, and everyone concerned should be cognizant of this. Without proper direction, each attack will continue to feed upon itself. Episodes of anxiety, overprotection, frustration, and guilt feelings become of increasing importance with each childhood attack when understanding is lacking. In most instances, proper orientation of the family along the above-described lines will lessen the importance of these emotional factors and provide a good basis for effective prophylactic treatment. Once these factors are understood and implemented, supportive drug therapy is often of benefit in helping to reduce anxiety and tension. A vasoconstrictor agent, such as ergotamine tartrate with caffeine, alone or combined with a sedative and antispasmodic, has been the preparation of choice. Because of the predominance of gastrointestinal symptoms, combinations of these drugs in suppository form, such as Cafergot or Cafergot PB, have been most useful in our experience.

ILLUSTRATIVE CASES

Case 1. J. G., a white boy born February, 1946, was first seen at the headache clinic on April 9, 1957, with the chief complaint of headache. Severe gastrointestinal symptoms and cyclic vomiting had been present since 1949 (age 3), while visual symptoms had been experienced for 14 months prior to this visit. Headaches occurred at irregular intervals, often daily, and at other times as infrequently as once every 2 months.

The headaches usually occur while he is up and about during the day, rarely awakening him from his sleep.

An aura consisting of spots in front of his eyes, which seem to have a jerky motion, occurs several minutes before the headache. The pain centers in the right frontal area and may extend over the entire head. There are associated impaired vision, described as "cloudy to almost complete blindness," severe nausea, and projectile vomiting. Untreated, the attacks may persist for from 1 hour to the entire day, during which time the boy can talk and answer questions but appears to be confused. Significantly, most of the attacks occur on Monday morning after he arrives at school. He happens to be in a large class which contains many retarded children with difficult behavior problems. The boy is studious, well-behaved and intelligent and seems to like school but becomes easily bored by it. He is active in many hobbies and sports. Significantly, he has noticed an increase in symptoms each spring since 1956. His mother relates this to increased physical and emotional tension created by his interest in Little League baseball.

The patient is the older of 2 boys, his brother being 2 years younger and free of complaints. There are several cases of migraine in the father's family, and a maternal aunt has grand mal epilepsy. The mother is a nervous, driving, compulsive individual, who underwent a series of shock treatments in August, 1957 and was scheduled for a repeat series at the end of May, 1958.

The past history was normal, except for routine childhood diseases. The only head injury sustained was a fracture of his nose after being hit by a baseball in 1954. Complete physical examination, including blood count, urinalysis, flocculation test for syphilis, blood sugar and X-ray examinations of the skull were entirely normal An electroencephalogram revealed a slightly abnormal wave pattern which was interpreted as a migraine equivalent. A histamine skin test, with 0.1 c.c. of 0.1 mg. per c.c. of histamine base intradermally, produced a marked flare and wheal and pseudopod reaction with local itching. A mild, flushed reaction about the head was noticed after this injection, and it was deemed advisable not to conduct a histamine provocative test.

The boy has been maintained on a regimen of Dilantin Sodium, 1.5 gr. b.i.d., and Bellergal tablets, 1 before meals and at bedtime, with Cafergot PB suppositories employed as needed for relief of acute attacks. One suppository inserted at the first warning of an attack has afforded excellent relief within 1 hour, even when used after headache and severe vomiting had already begun. On May 23, 1958 the patient awakened from his sleep at 1:30 a.m., complained of spots in front of his eyes, became nauseated, and suffered a grand mal seizure of 10 minutes' duration.

During each visit we made a point of engaging the mother in extensive talks. Her compulsive, anxious behavior became more evident, and opportunities were thus afforded to explain to her the influence of her emotional situation upon her son. Increasing appreciation of this led her to undergo psychotherapy, which eventuated in a series of electroconvulsive shock treatments in August, 1957. After this, she and her son showed marked improvement. However, during the spring of 1958 she noticed a return of her symptoms, and, as stated above, was scheduled for more shock therapy in May, 1958. It was just several days before this therapy was to begin that the boy had his first convulsive seizure.

Comment. This case has been presented in great detail because in our opinion it brings out most of the factors commonly seen in migraine in children. The child himself is an intense, driving, ambitious, intelligent, perfectionistic individual. He has a keen interest and awareness of all things about him, whether it is his home, school, hobbies or sports, and thus is sensitive to all other factors in his environment. His reaction to these factors has taken the form of cyclic vomiting in childhood, typical migraine headache since the age of 8, and now grand mal epilepsy at the age of 12. Although the electroencephalogram indicates that his problems could be related to epilepsy, his somatic expressions until recent date had been typically migrainous. Space will not permit a discussion of the differential diagnosis or the etiologic relationship between these conditions at this time. Prophylactic use of an anticonvulsant and an autonomic depressant (Bellergal) as adjuncts to psychotherapy tended to reduce the incidence and severity of the migraine attacks. Vasoconstrictor therapy via Cafergot PB suppositories controlled the acute migraine attacks most satisfactorily and in addition provided the parents and the child with the confidence that here was a preparation that could abort the attacks when they did occur. This served to remove the tension and anxiety (we call it the "fear complex") generated by previous attacks.

Case 2. T. J., a white boy born April, 1942, was first seen in the headache clinic on October 25, 1952, with the chief complaint of a generalized pulsating type of headache. These had occurred at approximately weekly intervals over a period of 2 years and persisted for 6 to

24 hours per attack. They were associated with nausea, vomiting, fatigue and exhaustion, but there were no paresthesias or visual or other type of aura. The attacks seemed to be precipitated by excitement, fatigue, tension, or overexposure to the sun. Loud noises also seemed to increase the severity of the headache, but excessive eyestrain did not. The child had always been quite well-behaved, and his schoolwork was excellent.

The family history was positive on both sides for headache. The mother had seasonal hay fever. The child had had asthmatic bronchitis before the age of 2, for which an adenoidectomy was recommended and performed. The medical history was otherwise negative, except for tonsillectomy at the age of 6, and the usual childhood diseases with no sequelae.

Physical examination, including a thorough neurologic examination and ocular testing, was negative, except for much lymphoid tissue in the pharynx.

A urinalysis was normal, and a blood count was essentially normal except for 5 per cent eosinophils. X-ray examinations of the chest, sinuses and skull were normal. Skin tests were positive to chicken, rice and lamb.

Treatment consisted of medication for relief of headaches, and the recommendation of an elimination diet. Notes kept by the mother in a headache diary for a 6-month period showed that the headaches occurred weekly, 2 episodes being brought on by emotional strain. None of the other headache notes mentioned any causative factors. When last seen, shortly before moving to another state, the patient reported a 3-day spell of headaches following a respiratory infection. Each individual attack was usually controlled by pentobarbital sodium, gr. 1. On the rare occasion that this was unsuccessful, 2 Cafergot PB tablets or 1 Cafergot PB suppository produced relief from the headache within 30 to 60 minutes.

Comment. Although this boy continued to have frequent headaches, they became less and less of a problem to him, for several reasons. Each visit to the office was used as an opportunity to have discussions with the boy and his parents, during which they were instructed how to recognize the different factors in his life that produced mounting tension. As these became more recognizable to them, they were able to avoid tension-producing conflicts with more and more facility. In addition, the control of individual attacks with the sedative or Cafergot PB served to remove the severe anxiety and tension that had formerly accompanied each attack. It is thus seen that, although the boy continued to have frequent headache attacks, he was better able to live with them and control them when they occurred.

Case 3. D. M., a white boy born January, 1946, was first seen at the headache clinic on February 18, 1957, with the chief complaint of recurrent headache over a period of $1\frac{1}{2}$ years. These headaches, localized in and about the right eye, were associated with nausea and vomiting. Most frequently they occurred late in the afternoon, were related to physical and nervous strain, and persisted overnight. The family history on both sides was positive for migraine. Shortly before our initial examination the boy had had an attack of asthma following a series of morning episodes of sneezing for 2 weeks. There was a strong family history of allergy.

Physical examination revealed the boy to be in excellent general health with only a few inspiratory wheezes and rhonchi noted.

Laboratory data were negative. Skin tests revealed strongly positive response to both ragweed and house dust.

Our diagnosis was migraine headache and bronchial asthma of the infectious and allergic variety.

Prophylactic measures were outlined to the mother and their importance stressed as it became apparent that excessive physical activity and emotional strain were factors in the onset of his headaches. We also emphasized the importance of keeping a careful dietary history in relation to his allergy in order to determine whether any foods played a part in his condition.

Cafergot PB tablets, 1 or 2 at the onset of headache, were prescribed for symptomatic relief. This afforded him excellent control, and the attack was usually aborted within 30 to 60 minutes.

Case 4. L. D., a white girl born March, 1946, was first seen at the headache clinic on March 26, 1955, with the chief complaint of headache and vomiting over a period of 2 years. Episodes of vomiting had occurred since early childhood whenever she was upset in any manner. The incidence of headaches was about 2 per week; they often were present on awakening in the morning or would begin during the day. Their onset was associated with a cold feeling in her head and a heavy sensation in the right nuchal area. She experienced photophobia in conjunction with the headache but no other eye or nose signs. After 10 or 15 minutes the pain would spread and become generalized and would impart a heavy, full, congested, throbbing feeling. Several hours after the onset of an attack the patient would vomit profusely. The pain would gradually subside and leave her completely "washed out" the rest of the day.

The past history was completely normal. The only positive history was that of whooping cough at the age of 5. The patient was 1 of 3 children, the other 2 never having had headache or any other related disorder. The mother and maternal grandfather both have typical migraine.

Physical examination revealed excellent general condition with no abnormalities. Laboratory examinations, including complete blood count, flocculation test for syphilis, urinalysis, X-ray examinations of the skull and sinuses, and electroencephalogram were normal.

A histamine skin test produced a large urticarial wheal, and a histamine provocative test with 0.35 c.c. of 2.75 mg. per c.c. of histamine diphosphate produced a typical headache within 30 minutes.

At the conclusion of the diagnostic studies several lengthy and detailed discussions were had with the patient and her mother. These sessions revealed that the child was a very sensitive, energetic, overactive girl who had reacted since infancy with gastrointestinal symptoms to any upset in her life or routine. The headaches apparently started when the mother had to return to full-time work and leave the child with a housekeeper. In addition, the living quarters are so cramped that the child must sleep in the same bedroom with her parents. Attempts to alter these situations were not successful. For this reason it was decided that pharmacotherapy offered the best approach, and a program was prepared and outlined.

The patient and the mother were instructed in the subcutaneous administration of histamine (histamine diphosphate, 0.275 mg. per c.c.), 0.05 c.c. to be given twice the first day, with increase in the dose by increments of 0.05 c.c. daily until a dose of 1.0 c.c. was reached. If any hot, flushing reaction or any mild headache was produced by any dose, the subsequent dose was to be reduced in an effort to keep the level just below that which would produce any subjective reaction. It was found that the girl was able to take 0.3 c.c. twice a day without reaction of any kind

We explained that this histamine desensitization and readjustment of her home situation would gradually reduce the frequency and severity of the headaches but that occasional attacks might not be avoided and should be expected. At such times she was advised to take 2 Cafergot tablets at the onset of the headache or insert a Cafergot suppository rectally if nausea and vomiting happened to be a prominent symptom of any attack. She subsequently reported that she derived excellent relief from this preparation within 15 to 45 minutes and that it had not failed on any occasion.

When seen again 3 months after the above routine had been instituted, the patient was much improved. Headache incidence had been reduced to 1 or 2 attacks in a month, which were easily controlled. It was no longer felt necessary for her to continue with histamine injections, and these were suspended. She has been observed at regular intervals since then, and her progress has continued to be very satisfactory.

Comment. Headache in this 9-year-old girl presents several of the prominent factors often found in children. There was a definite family history of migraine. The home setting was such as to make an orderly, relaxed and hygienic situation impossible. Correction of the pertinent factors related to production of the headache and the program outlined for the management of the attacks proved successful.

SUMMARY AND CONCLUSIONS

Many diverse factors may be involved in the genesis of migraine in children as the case histories presented above reveal. In general, this condition differs very little from that seen in adult life. Similar psychogenic factors are present but are often more clear-cut in young children. The relation between the home setting, parents, teachers and other children in the production of individual headaches can usually be ascertained, and resolution of conflicts is frequently rewarding.

Extreme nausea and vomiting, often projectile, is a characteristic finding of the attack. Prophylactic treatment consists of wise counseling and histamine desensitization when indicated. The preparation, Bellergal, has served as a useful adjunct in the prevention or control of autonomic symptoms which, if left unchecked, can be quite distressing and prone to increase anxiety and tension.

The specificity of Cafergot or Cafergot PB in aborting or attenuating the migraine attack provides a source of reassurance to these children. It exerts a favorable psychologic effect of great value in the total management of headache in children. No evidence of intolerance, idiosyncrasy or toxicity to these ergot preparations has been seen at any time in this age group.

(*Continued on page 304*)

President's Page

PRESSING PROBLEMS ARE ECONOMIC

Those who began practice before World War II find the progress in combating disease amazing, both as to treatment and prevention. The antibiotics, the corticosteroids, nuclear physics and metabolic studies, to mention only a few, have opened a new world of medical information whose limits, at the moment, appear boundless. And even before these startling developments, diseases such as diphtheria, scarlet fever and typhoid had been fairly well controlled. As a result life expectancy in this country has been greatly increased.

In spite of, or perhaps because of these advances, the more pressing problems of medicine today are economic rather than scientific. This does not mean that all problems of disease are solved, or soon will be, or that we can afford to sit back complacently and view these accomplishments. There is need for even greater effort today to take full advantage of these gains.

With the ever increasing need for new and expensive drugs, materials and apparatus, the costs of illness have risen rapidly. While the methods now used are far more effective than anything available before, they are more costly. Inflation is seriously aggravating this problem, but it is not the primary cause. Although the average duration of illness is shorter, complications less frequent, and mortality considerably lower, these benefits are often forgotten by the patient who feels overwhelmed by the medical costs.

Most of the criticism of the medical profession today arises from purely economic factors, chiefly medical costs. Most articles appearing in the lay press criticizing doctors are generally complaints about the expense of an illness, specifically, medical fees. Members should know that the great majority of complaints reaching the Society result directly or indirectly from charges for physicians' services. Complaints about the quality and type of professional service are relatively few.

Most physicians' fees are reasonable. Some may be too high, some others may be too high in terms of what the patient can afford to pay. Too often the latter situation is due to the physician's failure to discuss frankly with the patient or his family the nature of the treatment and the probable cost before therapy begins. The continued failure of some physicians to consider the economic aspects of the doctor-patient relationship can only result in dissatisfaction for both. The relationship between the physician and the general public may be expected to deteriorate further unless more time and attention are devoted to the economic aspects of medical care.

W. LeRoy Dunn

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Editorials

THE PHYSICIAN AND THE PREVENTION OF JUVENILE DELINQUENCY

In the light of the increasing prevalence of juvenile delinquency and the increasing pressure for the medical profession to concern itself with the problem, it seems timely to call attention to the Conference on the Role of Pediatric Services in the Prevention of Juvenile Delinquency held in mid-February at Arden House.

The conference concentrated on the physician's participation in identifying and dealing with pre-delinquent behavior in children. This took the form of stressing the importance of recognizing and working with those causes which lay within the individual, the family, and the community. The outstanding pediatricians who conferred with authorities in such fields as sociology, psychiatry, law, social welfare and education emerged with recommendations which emphasize that there is a changing character to the medical care of children.

Delinquency was recognized by the conferees

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of The Medical Society of the District of Columbia

as a symptom which has multiple causation. As yet our present state of knowledge has limitations which do not allow us to predict accurately what experiences might be causative. However, enough is known to indicate that it is within the physician's responsibility to take cognizance of the identifying factors which are available to him and which might result in delinquency. In this connection, the doctor's role is not significantly different from that which he has played in relationship to other disorders historically. Thus physicians advocated good nutrition and the isolation of patients with infectious diseases before they had a definite knowledge of specific food factors or specific infectious agents.

The essence of the conference findings was that in the physician's continuing contacts with the child the truest type of prevention may be possible in its earliest years. This assumes the doctor's awareness of the individual deviations from the normal in physical, intellectual and psychosocial makeup and the type of handling of these differences that would tend to perpetuate the distortions. In the first few years of life the child's doctor is in a unique position to guide into healthy directions, if he will, the emerging differences in individuals. This is inseparable, of course, from dealing with the child as a family member.

Once pathologic personality disturbances are established, the child's physician's role changes to that of the case-finder counsellor to the child and family and a guide to the use of adjunctive services, resources and skills. Hopefully the signs of delinquent tendencies can be spotted before they crystallize and help can then be obtained. As a responsible citizen, the medical man who works with children can be influential in creating community awareness of the resources necessary, can assist in planning, and, where appropriate, can participate in community health activities that offer the opportunity for preventive approaches such as well-baby clinics, health screening for guidance services, and school health services.

All this assumes that the physician of the future will have the facts at hand and the skills with which to accomplish these objectives. It was thus reassuring to note the presence of a number of pediatricians involved in teaching and especially the content of undergraduate and postgraduate curricula. The conference also pointed out the areas in which research will be necessary to provide the soundest guide lines for the physician in this preventive area. This should include some controlled experience with new patterns of the doctor's involvement in child care.

We can look forward to the detailed report and recommendations which have been promised by the conference sponsors, the American Academy of Pediatrics and the Community Council of Greater New York. We can be proud of the part our Past President, Dr. Preston A. McLendon, played in initiating and chairing the conference in his role as Chairman of the Academy's Committee on Juvenile Delinquency.

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COMPULSORY LICENSING OF PRACTICAL NURSES

For some time the Graduate Nurses' Association has been convinced that there should be a law regulating practical nursing in the District of Columbia. All other states have laws regulating practical nurses and schools for the training of practical nurses. Only in the District of Columbia can any person, no matter how untrained or otherwise unqualified, make herself available, perhaps through a newspaper advertisement, and accept employment as a practical nurse. No authority certifies to her background or ability. She may accept a case in a home where she receives little or no supervision, and where she may attempt, out of ignorance, to care for an illness or to give a treatment about which she knows nothing.

On the other hand, there are in Washington hundreds of young women, and men, too, who are either graduates of approved schools of practical nursing or who, by years of experience, are well qualified to give the care expected of a good practical nurse. They are employed in homes, hospitals, nursing homes and health agencies. They are sorely needed and have been doing an excellent job. Unfortunately, the public does not know how to differentiate between the qualified practical nurses who know what is expected of them, and know their limitations and those who rashly assume the duties and responsibilities for which they are not prepared.

At present there are 4 accredited schools for practical nursing in the District: 2 under the public school system, namely, the Margaret Murray Washington School for Practical Nursing and the Burdick Vocational School; a third, at the Hannah Harrison School; and the fourth at Georgetown. All have been accredited by the National Association for Practical Nurse Education.

If students are to be encouraged to enter our practical nurse schools; if qualified practical nurses are to be encouraged to come to the District; if practical nurses who have been refused licensure in other states are to be prevented from practicing here; and if the public is to be protected, then there ought to be a law to regulate practical nursing.

There is only one way to protect our patients from exploitation by unqualified practitioners: Make certain that this Congress, without delay, passes a law that will require that only those who have been certified as competent and have been licensed as practical nurses can call themselves Licensed Practical Nurses; insist that the law provide for the regulation of schools for the training of practical nurses, as it does for schools for professional nursing; and, in order to prevent the unqualified from continuing to practice as a Licensed Practical Nurse under a waiver, see that the law provides that all those practicing at the time the law goes into effect are obliged either to take an examination or to submit satisfactory evidence that they are competent to give safe nursing care.

Not only graduates of accredited schools but the large number of practical nurses without formal training who qualify for licensure because of their experience are anxious to be licensed. The health professions owe it to them as well as to the public to take steps to provide for it.

The first step is to promote a "permissive" law which requires that no one can represent herself as a "Licensed Practical Nurse" unless she has been so certified. If nurses and physicians do their part in educating the public, patients will soon be able to recognize those persons qualified to carry out the duties of a practical nurse.

In 1953 the Graduate Nurses' Association and representatives of practical nurse groups and schools for practical nursing requested the District Commissioners to take steps to introduce appropriate legislation. After conferences with members of the Citizens' Advisory Committee, to which the request was referred, a bill was introduced in 1955 but died in committee. An identical bill was introduced in 1957. Although hearings were held before a subcommittee of the House District Committee in July 1958, no further action was taken, and that bill died with the close of the 85th Congress.

When testifying at the hearing, the Graduate Nurses' Association called attention to the following weaknesses: The proposed legislation gave to the Commissioners complete jurisdiction over all functions of the Nurses' Examining Board; although it provided that they could delegate functions, it did not ensure that a Board would be appointed, or, if appointed, that the professional nurse members would be persons qualified to carry out its professional functions, such as accrediting schools and programs.

During a recent conference with the Health Advisory Council in regard to a similar bill which is being prepared for introduction in this Congress, the main objections to the previous bills were brought to their attention. The representatives of the Graduate Nurses' Association were informed by the assistant corporation counsel present that under the Reorganization Plan the Commissioners already have jurisdiction over the Boards, and that it would be contrary to the intent of the Plan to write into law details such as qualifications of the members of the Board. The GNA has been assured by the Citizens Advisory Committee and the Health Advisory Council that every effort will be made to ensure that safeguards to nursing education and nursing service will be provided, if not in the law itself, in regulations. We have no reason to doubt that these safeguards will be provided by the Commissioners.

If a law is passed without such safeguards, steps must be taken toward having them included in the regulations which the Commissioners must set up to administer the Act.

This is the situation in regard to practical nurse licensure as it exists at the moment.

It is the duty of the professions responsible for patient care to work toward procuring legislation which will not only protect our patients from unqualified practitioners but will also protect our standards of nursing education and thus provide better nursing care in this community.

EDITH M. BEATTIE, R.N.
Executive Secretary,
Graduate Nurses' Association

PRESENT STATUS OF POLIOMYELITIS VACCINATION

On December 5, 1958, the Surgeon General of the Public Health Service, Dr. Leroy E. Burney, called a conference on poliomyelitis vaccination, which was held here in Washington. Following this conference the House of Delegates of the American Medical Association unanimously recommended that the following steps be taken in the poliomyelitis inoculation program:

"1. Each physician assume the responsibility for making certain wherever possible that all members of families he serves receive protection against poliomyelitis by having the full 3 doses of poliomyelitis vaccine.

"2. State medical organizations arrange with state health departments for a joint effort to bring together county medical society representatives and representatives of county and city health departments for the purpose of discussing the need for joint study committees at the local level to survey the problems which may exist and to work jointly to solve them.

"3. County medical societies meet with county and local health department representatives to create study committees to survey the problem on immunization as it may exist in the local area, and develop and implement a satisfactory program to meet the local situation."

The District of Columbia Medical Society has endorsed the above program. Its Committee on Poliomyelitis met with members of the D. C. Department of Public Health, and a poliomyelitis immunization study was undertaken by the Health Department's Bureau of Disease Control and Biostatistics Division. This study disclosed the number of residents of the District of Columbia who have not yet received the first 3 injections. According to age, they are:

Age Group	No. Not Vaccinated
0–4 years	50,000
5–17	35,000
18–44	225,000
45 and over	265,000

The most recent information concerning the proposed poliomyelitis vaccine combined with diphtheria, tetanus toxoid and pertussis bacilli is contained in the following statement of the American Academy of Pediatrics:

"Inoculation with inactivated poliovirus vaccine is recommended for all persons up to 40 years of age.* Vaccination of parents should be encouraged by physicians giving injections to children.

"The customary course of injections is 2 successive doses 1 month apart followed by a third injection after an interval of approximately 7 months. A fourth injection 1 year later is advocated. This course is probably adequate for older children and adults. Preliminary evidence, however, indicates that a considerable proportion of infants have a variable and relatively short-lived antibody response when injected in this fashion.

"The Committee recommends that infants be given a series of 3 injections of 1 ml. each 1 month apart beginning at 2 months of age followed by an injection approximately 7–12 months later and another at approximately 4 years of age. At present there is insufficient evidence on which to base firm recommendations concerning requirements for additional booster doses. Until such data become available, it is the opinion of the Committee that booster injections of poliovirus vaccine should be scheduled for those who have already had 4 or 5 injections at intervals of approximately 4 years to coincide with booster injections of combined diphtheria and tetanus toxoid (adult).

"A commercial preparation containing poliovirus, diphtheria and tetanus toxoid and pertussis bacilli is expected to be available quite soon. This will be given according to the same schedule now used for DPT. It is recommended that physicians do not administer improvised mixtures of DPT and poliomyelitis vaccine, although these preparations may be given simultaneously by separate injections at different sites. There are few contraindications to poliomyelitis vaccination. It may be performed safely at any time of the year even when poliomyelitis is prevalent. Reactions are extremely rare, particularly in children. A few reactions to the small amount of penicillin present in most of the vaccines have been reported."

According to the latest information, Surgeon General Burney has said that the oral poliomyelitis vaccine is still in the experimental stage and would not be approved by the Public Health Service in the near future.

William S. Anderson, M.D., *Chairman*
Daniel L. Finucane, M.D. *Co-chairman*
Committee on Poliomyelitis

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* The Committee on Poliomyelitis together with the D. C. Health Department suggested that the age limit of 40 be dropped and that all adults be encouraged to receive the poliomyelitis vaccine.

SERVICES OFFERED BY WASHINGTON HEARING SOCIETY

Physicians are invited to refer their patients to the Washington Hearing Society for rehabilitation in speech and hearing. Fees are very moderate, and services are free to those unable to pay. Services are by appointment only and include:

1. Clinical hearing tests.
2. Trial of hearing aids to determine the aid best suited to client.

These services are rendered by an audiologist in a soundproof room with modern equipment and are supervised by a committee of otolaryngologists who periodically review cases.

3. Classes in speech, auditory training, and lipreading for:

Preschool children—daily classes, Monday through Friday.

School children—twice weekly.

Adults—day and evening classes.

4. Parent training to help parents teach their children at home.
5. Health education.
6. Social rehabilitation through group meetings of persons with hearing loss.

In and Out of Focus

BY THE OBSERVER

Protection for the 65-plus Population

Proponents of Social Security legislation providing health benefits for the aged are undoubtedly responsible for the lively interest in the development of voluntary health insurance programs for the 65-plus population. This should prove gratifying to them even if the programs offered fall short of what they visualize as essential for the protection of the aging.

As previously reported in this column, the House of Delegates of the American Medical Association, at its meeting in Minneapolis last December, voted favorably on the recommendation of the Council on Medical Service: "That the American Medical Association, the constituent and component medical societies, as well as physicians everywhere, expedite the development of an effective voluntary health insurance or prepayment program for the group over 65 with modest resources or low family income; that physicians agree to accept a level of compensation for medical services rendered to this group which will permit the development of such insurance and prepayment plans at a reduced premium rate." (See "An Appeal for the Aged," January 1959, MEDICAL ANNALS, page 39.)

In the weeks immediately following the Minneapolis meeting, many state medical societies turned to their Blue Shield Plans requesting that they aid in the development of programs for the aged. Most plans have now removed maximum age limits so their subscribers can renew their memberships indefinitely. New programs for the aged, it is reported, have been placed in operation under Blue Shield auspices in Connecticut and Wisconsin. Although definite information is not available, other states have or will soon initiate plans.

In Colorado there is a unique program in operation directed by Blue Shield. It is financed by the state for participants in its pension program, all of whom are indigent. Although of considerable interest from the standpoint of its organizational setup, it cannot be used as a guide where the self-supporting population is concerned.

Some months ago our Society's Executive Board requested Medical Service, Washington's Blue Shield Plan, to develop a program for the 65-plus population in the District. A proposed plan was submitted at a recent meeting of the Service's Board of Trustees, which, it was hoped, could be forwarded to the Society promptly for its consideration. However, it was decided that the plan should be held up pending further study. Submission of the plan, however, should not be delayed more than a few weeks.

Despite this evidence of widespread activity, progress has been slower than many medical leaders would have liked. However, careful planning is necessary before these programs can be placed in operation. This is especially true of the service-type program. Commercial insurance companies find it less difficult because without exception they indemnify the policyholder in accordance with the schedule of allowances which they have established for given medical procedures.

Among the commercial insurance companies which have undertaken the 65-plus program are the Continental Casualty Company of Chicago and Mutual of Omaha. These two companies have provided your Observer with data regarding the provisions of their respective policies which some of our readers will find of interest.

The Continental Company makes a point of the fact that it was the first commercial insurance company to evolve this type of program. It carried full-page advertisements in Washington newspapers. The caption of one read: "The New Plan That Pays Hospital-Surgical Bills for *Anyone* 65 or Over!" Regardless of the merits of this Company's policy, this was, to say the least, an optimistic statement. Nevertheless, the Continental Company deserves credit for its effort to meet in part the needs of the older population.

The Company states in its advertisement that any person is eligible who is now 65 or older living in New York, New Jersey, Pennsylvania, Maryland, Delaware, Ohio and the District of Columbia. No health questions are asked of the applicant and no medical examination is required. The policy cannot be cancelled or modified by the Company, except for nonpayment of premiums, unless all of its policies in the state are cancelled or modified.

> "The policy provides up to $10 per day for hospital room and board for a maximum of 31 days for each confinement; up to $100 allowance for miscellaneous hospital expenses and a surgical allowance from $5 up to $200, as set forth in a schedule in the policy. For example, up to $5 for removal of a toenail; up to $100 for an appendectomy; up to $200 for removal of a lung. There are no limits to the number of hospital confinements in any one year or other period of time. However, benefits for successive confinements for the same condition are limited to the maximum payable for any one confinement unless they are six months or more apart. If six months have passed, full benefits are again available."

The Company will not pay for hospital and surgical expenses covered by Workmen's Compensation or Occupational Disease Law or those resulting from war. Other expenses not covered are those incurred in any Veterans' Administration or any Federal, state or local government hospital where the majority of patients are mental or tubercular cases.

The premiun for the above coverage is $6.50 per month. The Company, however, reserves the right to increase the premiums, but this can only be done if it includes every policyholder in the state where the coverage is written.

The above information as it relates to the benefits and premium was obtained from the Continental Company's "Fact Sheet."

The second policy for the 65 plus group was written by Mutual of Omaha. Features of the policy as set forth in the company's advertisements are these:

> "A. No physical examination—applicants do not have to take a physical exam to qualify.
>
> B. No health questions—there are no health questions to answer.
>
> C. Longer coverage—this senior age plan provides coverage for as long as 60 days in the hospital—not just 30.
>
> D. Better coverage—no other senior age plan offers convalescent benefits.
>
> E. Policy good in any regular hospital, convalescent or nursing home—anywhere in the world. Naturally, the policy does not provide benefits for treatment in any place used primarily as a clinic, rest home or health resort. In relation to this, services provided or paid for by the United States Government or any state or county tuberculosis, or mental institutions, are not covered since such services are normally provided without cost.
>
> F. There is no limit to the number of times benefits may be collected for each hospital confinement due to a different accident or sickness. If confined more than once for the same or related cause, within a 6-month period, any benefits not used during the first confinement may be used for the second; however, benefits for hospital "extras" are payable only while a person is eligible for hospital room benefits. When confinements for the same or related causes are separated by 6 months or more, full benefits start over again.
>
> G. Covers both illness and injuries—except those caused by war or covered by Workmen's Compensation or Employer's Liability Laws, alcoholism or drug addiction.
>
> H. Pays in addition to other insurance—persons can carry any additional insurance they want and still receive Senior Security benefits. The only restriction is that they can have just one of Mutual of Omaha's Senior Security Policies.
>
> I. 10-day money-back guarantee—if a person decides that he or she does not want to continue with the policy, it can be returned within 10 days and the money will be refunded."

As to benefits, Mutual states:

> "1. Pays hospital, convalescent or nursing home benefits, up to a total of 60 days, in the following manner: Pays up to $10.00 daily room and board benefit while confined to the hospital. Pays up to $5.00 per day for further care of the same condition while confined in a

convalescent or nursing home when such confinements immediately follow at least 5 days in the hospital.

2. Pays from $4.50 to $225.00 for surgery, regardless of where operation is performed—home, hospital or doctor's office. Benefits are paid on a scheduled basis and vary according to the nature of the operation. Although dental surgery, service or repair are not covered, a person can still receive room and board benefits if hospital confinement is necessary.

3. Pays additional hospital benefits up to $1,000.00. The policy pays 80 per cent of the cost, in excess of $100.00, for these expenses:

Operating room
Surgical dressings and casts
Medicines and hypodermics
Blood transfusions
Oxygen
Anesthetics
X-ray
Laboratory services

4. Gives immediate protection for accidents which occur, or sickness which originates after the issue date of the policy.

5. Persons are also protected for conditions they had before policy was issued, provided the hospital confinement begins—surgical operation is performed—after the policy has been in force 6 months."

There are, of course, other insurance companies which do or will write this type of insurance, but the policies of the Continental and Mutual, it is believed, are representative.

The limitations of the commercial type program are obvious. If a 65-plus person is in financial straits and premiums are a burden, insurance policies now available do not afford sufficient protection to solve his economic difficulties. If he has means, the policies offered will be of considerable help. The greatest promise for an adequate program for all lies in the development of a comprehensive service type program, whether sponsored by Blue Shield or a commercial company. This will assure the eligible person that he will have very few financial worries where the costs of medical care are concerned.

* * *

Pin Whose Ears Back?

As observers in Washington can testify, most Senators and Congressmen are hard-working, dedicated men and women, deeply concerned with the country's welfare, with a special interest in their constituents back home. After all, politics is politics and elected public officials survive only if they satisfy the voters who elect them. This does not mean that their decisions are always arrived at to satisfy their constituency. In many instances, they act as their judgment and their consciences dictate. Fortunately, this is frequently no cause for regret. In fact, it has on occasion contributed to the legislator's rise in public esteem at home and elsewhere.

Doctors have at times shown a regrettable lack of understanding of these facts. The further they are removed geographically from Washington, it seems, the more this is true. Unfamiliar with legislative processes of the Federal Government and the aura of dignity which surrounds Congress, they talk brashly of "pinning back the ears" of their representative in Washington.

Your Observer recalls a physician who came to Washington for the purpose of representing his medical organization at a hearing before a Congressional committee which had under consideration a compulsory health insurance bill. The doctor was extremely hostile to the Senator presiding at the hearing, who was surprisingly patient with the belligerent witness. Following a reading of a prepared statement, the physician was questioned by members of the committee. Although uninformed, he was strongly opinionated. His attitude was such that the Senator finally warned him that he was appearing before a Senate committee and certain standards of conduct were expected.

Others present who represented the medical profession were considerably embarrassed. It would have been far better for the profession, they agreed, if this physician had remained at home.

There are, of course, legislators in Washington who have at times been unreasonable and who have unnecessarily harassed witnesses. However, they are in the minority. Eventually, if they do not mend their ways, they get their come-uppance from their own colleagues or the voters.

Some common-sense views on this subject were expressed by Dr. Lenox D. Baker,[1] President of the Medical Society of the State of North Carolina, at a State-wide Conference for Officers of County Societies early this year.

First of all, Dr. Baker reminds his listeners that times are changing:

"Already it can be said, and I believe without contradiction, that the movement toward guaranteed medical care and hospitalization for all citizens has gone so far that it will not be turned back. The problem facing us is how we can prevent this movement from destroying the doctor-patient relationship built on moral and spiritual values.

"How well we shall do depends largely on our own behavior. We shall have good and bad days. We must not be sensitive; we must not lose our tempers; we must not become paranoid; and should our opponents carry a chip on their shoulders, we must not take it too seriously. We will go further by looking for our own errors while respecting our opponents' strengths and realizing that they are just as ambitious as we and have brains as good as or better than ours. If we can develop coöperative leadership for these programs, we shall learn that no one loses and everyone gains."

On the subject of politics, Dr. Baker says:

"Medicine must never make the mistake of becoming a political organization, but an even greater mistake would be the failure of those within the framework of medicine to take an active part in the political affairs of the community, county, state and nation, doing so as individuals, each thinking and voting according to his own dictates. Organized medicine's job in this field is to see that its members do so act, but without direction from headquarters.

". . . Any doctor who has not financially and actively supported worthy candidates for election to public office has failed himself, his family, his profession, and his nation. The day is long past when an individual could finance and manage his own campaign for public office. If the right kind of man can be persuaded to seek public office, the least we can do for him is to give him financial and active political support. Medicine will never take a part in the running of our government until it has a voice in the selection of the men who control it, and that selection is influenced by financial donations, by organization of those about us, including our neighbors, our fellow workers and friends, and by seeing that these people exercise the right of suffrage and cast a vote. That is politics. And if it be a crime, I stand before you guilty to the core . . . .

"The trouble with us in the political field is that we sometimes seem not to value our rights nor to accept our responsibilities. Politically we have been lazy. We have been self-satisfied, and I am sorry to say that at times we have acted as if being a doctor made us above being a citizen."

Finally, Dr. Baker comments on the proper approach to lawmakers:

". . . To engage in politics is not to alienate those on the opposite side. The world of politics can be a beautiful world. There is nothing wrong with a Republican thinking a Democrat is a pretty nice fellow, and there is nothing wrong with a Democrat thinking a Republican is a charming individual. Webster's International Dictionary defines the word politician as 'a polite person; a statesman; one versed or experienced in the science of government.' What more worthy position in life can a man occupy? And it should be remembered that a statesman has to be a politician long before he becomes a statesman, and that there are more statesmen in politics than there are schemers and intriguers.

"In these controversies we need not use our arms to wave about or to pound on tables; we can hug someone with them. At the same time we can offer up a prayer for strength and increased admiration for honest dealing and clean thinking, and pray that we suffer not our hatred of hypocrisy and pretense ever to diminish. Most of all we need to pray for perseverance amid discouragement and failure and for grace to be steadfast when we are misunderstood and ridiculed, even when such ridicule cuts to the core and makes us conscious of how much we have received and how little we have given.

"Our legislators, both state and national, will need help. Neither they nor any man can be right all the time. Had we participated in their selection, we would be in a better position to advise them. Just how much they may listen to us under the circumstances is questionable, but we must remember that they can be only as well informed concerning our problems as we allow them to be. We may rest assured that factions opposing what we consider good health and hospital programs will tell their side of the story. If we do not give our representatives the information they need, they can only act to the best of their abilities, and we must remember that many times they know little or nothing about the problems concerned. In their discussions, new material and ideas will be introduced which can be appropriately absorbed into the present health program of our country without upsetting a balanced proportioning of private and public medicine. If we do not open our minds to some of these new ideas, the absorption may be the other way. Our contact with our legislators should be through people whom they trust and know, usually those who participated in their campaigns. I hope we have a sufficient number of doctors in our membership to be able to make such contacts.

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[1] Baker, L. D.: North Carolina M. J., 1959, **20**, 37.

"One fact we must recognize: Many changes have occurred in the health programs of our country. Whether these changes be good or bad, they have occurred, and medicine must furnish a leadership that will see that our doctor-patient relationship is not disturbed and that better health programs are available to all regardless of how the programs are financed. If medicine takes this leadership in an effort to save for America a proud and dedicated profession, we shall be confronted in some areas with the necessity for an occasional change of mind and a rearrangement of our prejudices. There will be occasions when we cannot solve our problems. We shall have to discipline ourselves and learn to cope with difficult situations. We shall need to become astute politicians and statesmen. We shall have to learn the art of compromise without straddling a fence and without losing sight of our goal."

If one agrees with Dr. Baker, as it would seem most physicians will, there is little or nothing to be gained and much to be lost by the "pin-your-ears-back" attitude of some physicians who endeavor to influence legislation.

★

Anonymous Complaints

Among the numerous telephone calls received at the Medical Society's Executive Offices are ones from the person who wishes to discuss the differences which have arisen between himself and his physician. What he wants is an opinion either as to the propriety of his doctor's professional conduct or the fairness of his fees. When asked to give his physician's name, he declines because he is anxious that the doctor know nothing about his inquiry.

There are, of course, variations of this kind of call. For example, there is the irate individual who wants to get the resentment against his doctor out of his system by telling someone about it but who refuses to give his name or that of his doctor. He insists that it isn't important; all he wants is to have his opinion of his doctor confirmed. When this is refused, he sometimes winds up with a denunciation of the medical profession as a whole—"I'm not surprised that many people favor socialized medicine. I am beginning to think it would be a good thing myself." On occasion the conversation closes on a happier note with the caller giving assurance that his doctor is far better than the rank and file in the profession.

In each instance, the caller is informed that if he has a complaint it must be in writing, the same being true if he wants an opinion. In the event of a complaint this communication must not only include his physician's name but all the pertinent facts about the differences which have arisen between himself and the doctor. Permission must also be given by him to transmit the written complaint to the doctor for his reply and authorization to the physician to release confidential information relating to his condition, treatment given, and so on. Upon receipt of this information by the Society, it is referred to the Grievance Committee for its disposition. In many instances the caller protests that he does not want any difficulty with his physician and would rather drop the whole matter, which he does.

In another category are the letter writers who seek refuge in anonymity. They give a detailed account of their complaints but names are missing except for their own. They too want an opinion or advice. Sometimes the writer includes the name of the physician but does not give his own. Very often these letters are written by cranks. Unless an investigation is obviously called for they are ignored.

Patients are not alone in seeking anonymity. Physicians too are reluctant to be identified when they complain about a colleague. If a complaint is made personally to someone on the Society's office staff, the doctor usually concludes with the statement that he does not want to stir up any animosity toward himself. Therefore, he would appreciate it if his name is not mentioned. It apparently does not occur to the physician that the colleague against whom he is lodging a complaint might be curious about its source. When this is made clear to him, his enthusiasm for having a fellow physician disciplined often wanes.

Several unsigned letters have recently been received in the Society's Executive Offices enclosing newspaper clippings of stories in which physicians figure. Writers of these communications have strenuously objected to what they consider unethical publicity. Although these communications are anonymous, and thereby lose some force, they are not ignored. The Committee on Public Information and Education, if it agrees that the publicity is questionable, invites the physician publicized to appear at one of its meetings to discuss the matter. In every instance that your Observer can recall, this has been all that has been necessary to prevent repetition of the infraction of ethics or good taste complained of.

The desire for anonymity, where complaints are concerned, is, in some instances, understandable. Usually, however, refusal of an individual to reveal his identity leaves the Society's officers no alternative but to ignore them.

★

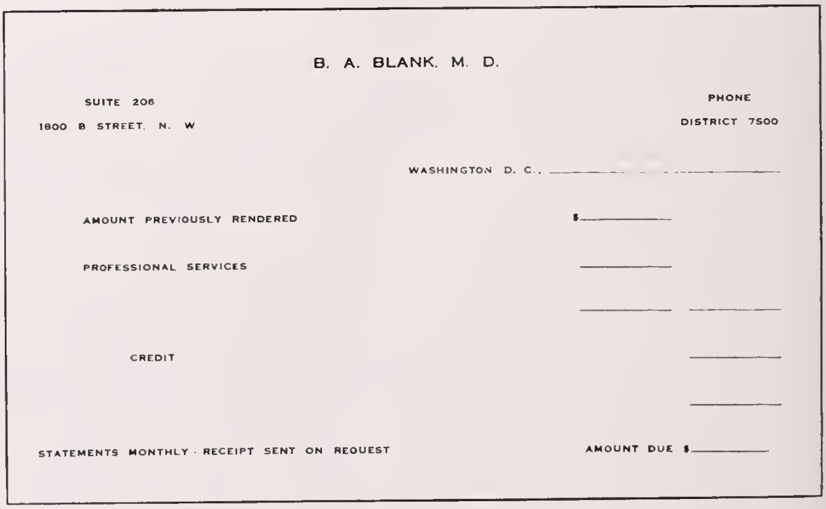
The Doctor's Bill

As readers of the Medical Annals must be aware by now, most of the complaints received by the Grievance Committee against physicians are in one way or another related to their fees. Not infrequently the complainant insists that he has not been able to obtain a bill of particulars. In other words, the physician refuses to itemize his charges, the statement received merely reading "For Services Rendered" and then the amount.

No reasonable physician will deny that patients have a right to know just what they are paying for. When a doctor refuses a request for a reasonable explanation, he is doing much to impair a cordial relationship between the medical profession and the public.

This has been one facet of the physician-patient financial relationship which your Observer has discussed with senior medical students over a period of many years. Along with expressing his views on the subject, he has presented for their guidance samples of statements, one which provides for no itemization (figure 1), the other which allows for detailed explanation of charges (figure 2). He has explained to the students that these statements are merely suggestive and will undoubtedly have to be modified to meet their individual needs. The important thing is that the patient understands what he is being charged for. If Blue Shield Plans, insurance companies, and other organizations with whom the physician deals require itemization before they will pay a bill, he has told them, why then should not the private patient be entitled to the same privilege.

There are, of course, situations where itemization is not called for. As is well known, the surgeon usually makes an overall charge for an operative procedure, which includes the attention he gives the patient before and after the operation unless there are serious complications. This



B. A. BLANK, M. D.

SUITE 206
1800 B STREET, N. W

PHONE
DISTRICT 7500

WASHINGTON D. C., ____________

AMOUNT PREVIOUSLY RENDERED $________

PROFESSIONAL SERVICES ________

CREDIT

STATEMENTS MONTHLY · RECEIPT SENT ON REQUEST

AMOUNT DUE $________

Figure 1

is equally true of the obstetrician where maternity cases are concerned. However, there should be an understanding about such charges *in advance* so as to avoid unfavorable repercussions later on. The physician who is timid in such matters will be interested to learn that if a natural approach is made it is the unusual patient who will resent having charges discussed.

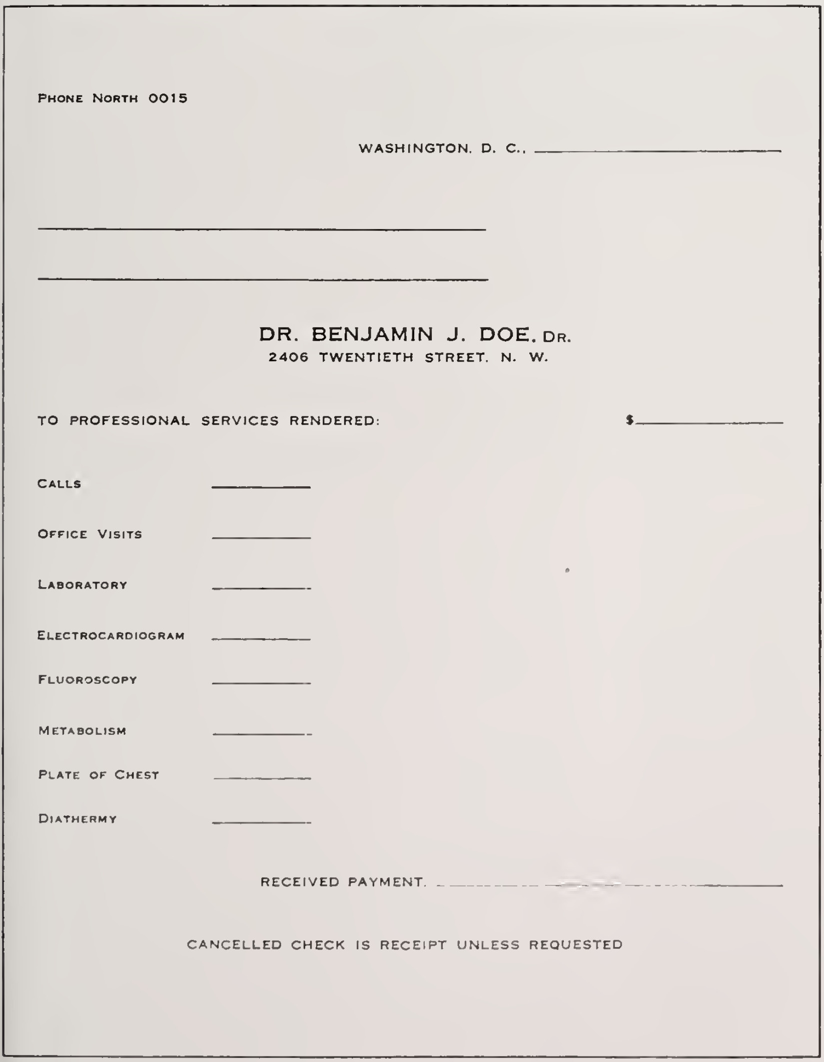
The main thing to remember, then, is that the patient has an inherent right to know what he is paying for, and the wise physician will see to it that this information is supplied without hesitation and in the friendliest manner possible. In other words, he will talk to his patient about financial matters in the same warm and understanding manner he does about the individual's health problems.

* * *

The Flounder and I

On a Wednesday evening late in March of this year, your Observer was ensconced in an easy chair in his study watching a television program when the telephone rang. A physician was calling to inform him about rumors which had spread throughout the city that poisoned flounder had been sold to unidentified persons unaware of its contamination. He urged your Observer to alert the newspapers to these rumors and to inform them that the Society's telephone exchange, Medical Bureau, which the doctor said was swamped with calls from worried fish-eaters, had notified hospitals of the possible deluge of poison victims.

Still somewhat hazy about what was happening, your Observer called the Bureau. The Supervising Operator told him that she and others on duty were exhausted, that when it became apparent an emergency was brewing she had called the Assistant Secretary of the Society, who is manager of the Bureau. Upon his instructions most of the callers were directed to the nearest hospital. At the same time all hospitals were advised to be prepared for an influx of patients.



PHONE NORTH 0015

WASHINGTON. D. C., ______________

____

____

DR. BENJAMIN J. DOE. DR.
2406 TWENTIETH STREET. N. W.

TO PROFESSIONAL SERVICES RENDERED: $______

CALLS ______
OFFICE VISITS ______
LABORATORY ______
ELECTROCARDIOGRAM ______
FLUOROSCOPY ______
METABOLISM ______
PLATE OF CHEST ______
DIATHERMY ______

RECEIVED PAYMENT. ______________

CANCELLED CHECK IS RECEIPT UNLESS REQUESTED

Figure 2

GEORGETOWN ALUMNI HONORED

Two members of the District Medical Society were among the five alumni of Georgetown University who received Certificates of Merit, March 17, at the Ninth Annual Awards Luncheon of the Georgetown Club of Washington, held at the National Press Club. At the right is Dr. Hugh H. Hussey (Class of 1934), Dean of Georgetown University School of Medicine. Next to him is Dr. Marcus H. Burton (Class of 1933), immediate Past President of the Georgetown Club, Past President of the D. C. Dental Society, and an Associate member of the Medical Society. Mr. William L. Mitchell (left), Commissioner of Social Security Administration, and District Court Judge John J. Sirica received awards; also Mr. Barnum L. Colton, President of the National Bank of Washington, who was unable to be present.

It was at this point that your Observer called a Washington newspaper. The city desk turned him over to a reporter who had been assigned to the story. Your Observer reported to him what he had heard and of the efforts of the Bureau to deal with the emergency.

It must have been apparent to the reporter that your Observer had very little knowledge of the situation because he filled him in at length on the real story. It appeared that a small distributor of flounder in Philadelphia was the source of all the excitement. Two deaths were definitely attributed to the poisoned fish purchased from him. Several other purchasers of flounder were made very ill.

Distributors as far south as North Carolina and the Midwest as far as Ohio were informed of the occurrence. Reports carried on police teletypes stated that sodium nitrite, a meat preservative, had inadvertently been sprinkled on the fish, which was at first thought to have been shipped widely. Radio bulletins and telecasts of warning were followed by hundreds of telephone inquiries in several cities along the Eastern Seaboard before it was discovered that the poisoned flounder had been distributed only in the Philadelphia area and South Jersey.

Evidently your Observer's report to one newspaper fell on unattentive ears, for to his surprise the account next morning stated that "on the strength of the word from Philadelphia [your Observer]. . . had alerted all hospitals in the area to ready their emergency rooms for an expected influx of patients with sodium nitrite poisoning symptoms. The alert was cancelled [by him] in a few hours on later advice from the north. . . ."

Having done nothing of the sort, your Observer wishes to pay tribute to the dedicated staff of operators at Medical Bureau. They work all hours, day and night, holidays, and week ends in handling a never-ceasing number of calls. (There were over half a million last year.) The flounder incident is only one example of the frequent crises with which the operators are confronted. It is in such circumstances that their

(*Continued on page 304*)

APPRAISING THE ARGUMENTS OF BLUE SHIELD CRITICS*

LELAND S. McKITTRICK, M.D., F.A.C.S.

Chairman, Council on Medical Education and Hospitals, American Medical Association

I have been asked to discuss the more important criticisms of Blue Shield and what, if anything, can be done about them. I feel certain that there are many others with a broader experience in, and a better knowledge of Blue Shield whom you might have asked. My experience is limited almost wholly to my own state, with a bit of information here and there that has come up in discussion groups, particularly with surgeons from other parts of the country.

Massachusetts, as you know, offers service benefits to the family whose income does not exceed $7,500, a man and wife with an income up to $6,000, and for the individual with an income of $5,000 or under. In addition, we have our original so-called Plan A with service benefits for the family whose income does not exceed $3,000. The fee schedule for Plan A is low, until recently the maximum being $150. The fee for an appendectomy was and still is $75. Recently, after a series of discussions by the Fee Committee the maximum fee for the most difficult procedure in Plan A was increased to $300, and in Plan B from $300 to $500.

Our basic policy covers surgical procedures in and outside of the hospital. Medical care is covered in but not outside of the hospital.

It is as a practicing surgeon, a member of the Board of Directors of Blue Shield and Blue Cross, working under these conditions that I appear before you.

The physician is an individualist. He has a direct and close relationship with, and responsibility to each patient. He pretty much thinks for himself, makes his own decisions, and then acts by himself. He dislikes having any interference with these privileges. When an organization like Blue Shield steps in and lays down rules and regulations, telling him that under certain circumstances he will receive so much and no more for the services he has rendered, a critical reception is to be expected. The wonder is that the criticisms are not more, both qualitatively and quantitatively, than they have been.

The more important complaints from the profession as I have understood them (and these are by no means all-inclusive) are:

1. The service principle interferes with the doctor-patient relationship.
2. The fee schedule is unrealistic.
3. The membership of the Society has no voice in Blue Shield action.
4. Blue Shield has a dictatorial attitude toward the profession.
5. Blue Shield should separate from Blue Cross.

Both the profession and the public are severely critical of Blue Shield because:

6. Blue Shield refuses to assume responsibility for certain conditions during the first year of membership.

The most serious complaints of the public are that:

7. Many physicians overcharge.
8. Too many people are unable to get coverage.

SERVICE VERSUS INDEMNITY BENEFITS

It seems to me that when we discuss service versus indemnity we are entering into a philosophical discussion involving the backbone of the entire Blue Cross-Blue Shield movement. Upon our decision rests the future of Blue Shield.

Dr. James McCann, first president of Massachusetts Blue Shield, whose foresight continues to astound all of us who have been close to Blue Shield in Massachusetts, said in his initial presentation to the Council of the Massachusetts Medical Society: "The purpose in establishing such a corporation is two-fold. The first has reference to the public at large, particularly the low-income segment of the middle-class group. Owing to insecurity of work and the lack of fixity of income in our present industrial age, the members of the low-income group claim that medical costs often attain proportions that are difficult to meet. The second purpose is personal, but may be expressed in terms of enlightened self-interest: We openly seek to diminish the hazard of compulsory health insurance. The chances are that, if our program succeeds and is widely accepted by subscribers, we can ward off this threat."[1]

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* Delivered at the Annual Blue Shield National Professional Relations Conference in Chicago, Ill., February 9–11, 1959.

[1] Report of the Committee on Prepaid Medical-care Costs Insurance of the Massachusetts Medical Society, from the Proceedings of the Council, Stated Meeting, October 1, 1941.

To those of us who took an active part in attempting to stem the rapidly rising sentiment in favor of a Federal health program, Blue Shield was hailed as the profession's answer to demands that the public be protected against the high cost of illness. It was, then, a program for the protection of the public, not a program developed primarily for the benefit of the profession. If it was proper to develop such a plan for the benefit of the public some 20 years ago it is proper that such a plan remain primarily for the public, but it must be one that is just and equitable to the medical profession. It is no assurance to a patient to have Blue Shield pay a stated amount for an operation and have the surgeon charge an equal or comparable amount over and above what the Blue Shield will pay. This, to the patient, is not the kind of protection he wants. He even asks himself whether the charge by the surgeon would have been greatly in excess of the additional charge made had he not had Blue Shield. This is particularly important in our relationship with labor. Labor has a perfectly clear concept of what it wants and what it believes it is going to get. It does not want and will not have an indemnity program. I am not one who feels that we or anybody else should permit labor to push us around, but I do believe that those with families within the income limit of the rank and file of labor have a right to expect to be covered for the total cost of medical and surgical care in any hospital experience. This can only be done through a service program with realistic income limits and one which has a just and equitable fee schedule.

Inadequate Fees

There is no easy answer to this criticism. There is, I feel certain, no really satisfactory, truly realistic fee schedule in any of our programs. Only time and continued effort will ever approach the ideal. The tremendous difference between the charges made by men in the same specialty and between different specialties for comparable services makes the development of a really satisfactory fee schedule extremely difficult.

One of the major problems of a fee committee is to obtain a proper relationship between the charges made by the several specialty groups so that services for procedures which are comparable shall command comparable fees regardless of the specialty.

Another major difficulty arises when an attempt is made to give reasonable compensation for the more complicated and difficult procedures in surgery when there is an upper limit of $300 and at the same time pay a reasonable fee for the simpler and more common procedures, such as appendectomies, herniorrhaphies, and hysterectomies. This is of great practical importance since some of the more common procedures are open to abuse and are done in such large numbers that they are very costly to the Plan.

Formerly, in our so-called Plan B, $125 was paid for an appendectomy with a top benefit of $300. It was obviously grossly unrealistic to have so little spread between the appendectomy which required relatively little experience, and probably 30 to 45 minutes to perform, and the resection of an aortic aneurysm requiring long training, much experience, and from 4 to 8 hours to carry out.

Efforts have been made to meet this problem in a realistic way in Massachusetts based on the premises that the number of the long and complicated procedures which are done are relatively limited compared to the so-called "bread and butter" items, and that the number of surgeons capable of doing the more demanding and extensive procedures are also relatively limited. On this assumption it would be proper and practical to pay more equitably for certain of these more difficult procedures, providing little or no change is made in the simpler, more common operations.

There are many complaints that the fees for obstetrics are grossly inadequate. As I understand insurance, it is a protection one gets, whether it be from fire, burglary or unexpected illness, by paying a premium to cover the cost of something that is totally unpredictable. Pregnancy hardly falls into this classification. You can budget for it but not insure against it. We have attempted to meet this problem by putting all obstetrics on an indemnity basis. Thus the prospective parents know the approximate cost, how much to expect from Blue Shield, and can, if they so desire, budget for it in advance.

There can be no question but that medical fees are not adequate. There is too much discrepancy between the payments to surgeons for work in their own special field in comparison to physicians who, in many instances, are rendering highly specialized services. We in Massachusetts have a long way to go before this is satisfactorily solved. We have tried to meet the problem in some degree by paying a larger amount for the management of some of the more complicated medical procedures, the type of illness for which specialty care is usually obtained. But here again, fee schedules cannot remain static. The only way I know of answering the critics of existing schedules is to establish an active fee committee. This committee should represent the various specialty groups of medicine and surgery as well as the general practitioner. Every member should command the respect of the physicians of the state. Working under good leadership, this committee must continually try to eliminate the inequities which are present.

PRACTICING PHYSICIANS WITHOUT VOICE IN MANAGEMENT

In 1958 Massachusetts increased the income limit of the so-called Plan B subscribers from $5,000 to $7,500 for a family. By so doing approximately 80 per cent of the people of Massachusetts became eligible to have service benefits. When this change was made by the Council of the State Medical Society there was an immediate and violent reaction on the part of a number of the Participating Physicians. The "Committee for Medical Freedom" was formed. Most, if not all, of the physicians in the state were sent a letter and a return postcard in which several questions were asked. Limits were too high. Fees were unrealistic on the basis of the higher limits, et cetera. But the important complaint was that the membership had had no voice in this basic change. According to the Committee, any change so important as this should be made only after approval by the membership at large. These complaints were made in spite of the fact that the Council of the Medical Society had passed this not only once but twice, with a period of 5 months intervening.

There is, it seems to me, only one answer to this criticism. Obviously, if the members of the State Society voting as individuals are to represent the controlling body, Blue Shield has no future. Our State Medical Society, and I suspect all others, is set up pretty much along what we consider to be democratic lines. The various districts elect their councillors, and it is through the Council that our Society makes its final decisions. This statement of fact, however, is not a satisfactory answer to the criticism. The real answer, it seems to me, is education. It may be regretted that so much effort has to be put in to educating the rank and file of our profession, most of whom have developed the habit of throwing printed material into the waste basket. Nevertheless, education of the physician in every way possible in matters of such importance as this is essential if experiences such as we have been through are to be avoided. At least if this is done, every member will be able to discuss any contemplated changes at the local society level well in advance of any action by the governing body of the society. Each member will then have had an opportunity to influence the vote of his representative in the final decision at the state level. He may not like the final action any better, but at least he has had his chance and is not in a position to criticize.

VARIOUS COMPLAINTS

Dictatorial attitudes. It is difficult for all of us as individual physicians to realize how many problems are presented to those at headquarters. With the number of questionable claims requiring confirmation (frequently by review of hospital records) it is not easy for those at headquarters to meet with patience and understanding the just complaints or criticisms which come from those whose interest and intent are above question. Public relations is a vital part of all of our Blue Shield activities, public relations not only as it affects the public, but also as it affects the profession. It is essential that a mechanism be developed at each headquarters whereby one or more individuals with proven ability to handle people can meet the profession as well as the public and give them satisfaction. Here, as in business, the customer must always be right.

Blue Cross-Blue Shield. It is very difficult for me to understand those who say that the Blue Shield should separate itself completely from Blue Cross and go its separate way. To me Blue Cross and Blue Shield are inseparable so far as meeting our common problem is concerned. If the Blue Cross-Blue Shield movement is to succeed, if the public is to receive the protection to which it is entitled, if American medicine is to remain free, Blue Cross and Blue Shield must go down the aisle together and every effort must be made to meet the common problems in an understanding, coöperative and imaginative way.

Waiting period. I do not know the answer to the complaint of both public and physicians relative to the so-called waiting period. As a practicing surgeon I find myself on the side of the patient. I believe that this question is deserving of continuing study to the end that ultimately a reasonable mechanism will be found to eliminate it completely. Until this can be done we are not completely fulfilling our obligations. Not only that, but it could well be that the cost in dollars and cents might prove to be not too significant as compared to the ill will of bad public relations. We pay good money in advertising to build understanding and good will, only to tear it down by refusal to accept responsibility for a claim which doctor and patient honestly believe should be honored.

Excessive charges. There is, I believe, only one answer to the additional charge by the Participating Physician. This answer is a service program with a realistic income level and fee schedule. I have every reason to believe that much of the subscriber criticism in our own state has disappeared with the change in income levels brought about a year ago.

Coverage for the aged. I have heard many patients over 65 years of age express regret that they were unable to get Blue Cross and Blue Shield coverage. Many of these patients had other insurance in the past which was dropped when they retired from their work. In many instances these people were unaware that they would be unable to maintain their coverage after stopping work. And, of course, there are many others in this same age group who, for one reason or other, never saw fit to get the protection which Blue Cross and Blue Shield had to offer them when they were eligible.

The pronouncement by the American Medical Association in Minnaeapolis last December is an empty pronouncement unless there is developed a very real mechanism for its implementation. Massachusetts has had a low income plan ever since it was formed, but it does not do you any good if you cannot buy it because you are too old or have too little money. Now we are letting the bars down in Massachusetts as they are elsewhere in the country. This is certainly a step in the right direction. But we are unrealistic if we think by accepting enrollment of those over 65 on a health statement we will be solving the problem of the aged. There are any number of people over 65, in fact there are very many under 65, who cannot obtain enrollment because of health hazards. There are many both under and over 65 who cannot enroll because of their inability to meet even minimum premiums. Unless, in some way, a mechanism can be developed through the coöpertion of Blue Cross-Blue Shield, welfare and charitable agencies, and Government to make it possible for all of these patients, regardless of their physical condition, their age, or their financial status to obtain coverage of the type offered by Blue Cross and Blue Shield, then we, in our community effort, will fail. If we fail in our community effort we may well fail in our total effort.

CONCLUSION

In conclusion, Blue Shield must be accepted by the profession and recognized by the public as a community effort. Unless this can be put forward as a primary objective of the Blue Shield movement it will fail. It must be fair to the physician and it must be obtainable by all of the public at a reasonable cost. This means that the sponsoring medical society has a real responsibility to the public and to the profession as a whole, and to the practicing physician. Blue Shield, in turn, has a great responsibility to the sponsoring society, to the public, and to its Participating Physicians. This can be fulfilled only if Blue Shield offers strong leadership based upon a full realization of its overall responsibilities. This leadership must be characterized by an understanding of its problems, its opportunities, and of human nature. It must, by action, demonstrate imagination and determination which will lead the way to better programs and insure their success by a continuing, well conceived, well executed, long-range program of education of both the public and the profession.

Cancer Page

CANCER OF THE RECTUM

More than 10,000 persons in the United States died of rectal cancer last year. Approximately 5 per cent of all cancer deaths are due to this disease.

Early rectal cancers are symptomless. Bleeding, progressive changes in bowel habits, early morning diarrhea, mucus or pus in the stool, urgency or painful defecation, changes in the size of the stool, and intestinal obstruction all occur after a lesion has grown for some time. Unfortunately, some patients will delay reporting these symptoms to their physicians. Physicians, on the other hand, too often fail to examine the rectum until such symptoms develop.

In order to detect and treat early rectal neoplasms a physician should include in the yearly physical examination of asymptomatic patients:

1. Digital examination of the rectum. Seventy-five per cent of rectal cancers are within reach of the examining finger. An early lesion, however, may be easily missed.

2. Proctosigmoidoscopic examination. At the Strang Clinic 13,524 proctosigmoidoscopic examinations were done in asymptomatic patients over the age of 45 years. Four per cent of the women and 6.5 per cent of the men had benign polyps, and 0.6 per cent of the women and 0.5 per cent of the men had rectal cancer.

3. Stool examination for occult blood. Blood-positive stools obtained when on a meat-free diet warrant further examination.

4. Barium enema. When polyps are found in the rectum, other lesions may be present higher in the bowel.

In symptomatic patients, lesions such as hemorrhoids and fissures cannot be blamed until polyps and cancers have been ruled out. All rectal lesions should be subjected to biopsy or excised and the specimen examined microscopically. When cancer is found, definitive therapy should not be delayed.

NEW FILM IN CANCER EDUCATION

RESEARCH
EDUCATION
SERVICE

Of special interest to physicians is the announcement of a new professional film on the subject, "Routine Pelvic Examination and the Cytologic Method." This film, produced jointly by the National Cancer Institute and the American Cancer Society, depicts the technic of pelvic examination plus the technic of obtaining and preparing cervical and vaginal smears as a part of the examination. Both a patient and a mannequin are used and 3 methods of obtaining smears are shown. The value and importance of the routine use of cytology as a part of the pelvic examination are emphasized in the narration and through the use of charts and graphs.

Specifications:	Running time, 14 minutes; color and sound; 16 mm.
Audience:	Professional only—physicians, medical students, and nurses.
Accompanying Material:	"Cytology and Cancer of the Cervix" (ACS Booklet)

The film is available on loan to professional groups on request to the office of the D. C. Division of the American Cancer Society (Executive 3-3690).

On the Lighter Side

This year the major baseball leagues tried out a new gimmick. They pushed up the opening dates a few days in April in order to take in an extra week end, and thereby hoped to siphon in a few extra dollars. However, the weather—a fickle lover of sports—crossed them up, and on paper they lost thousands of dollars due to the unseasonable rain, hail, sleet and snow that hampered outdoor activity everywhere north of Florida.

The only bright spot in the entire week end was the opening day of baseball in Washington, D. C. It was truly baseball shirt-sleeve weather. The sun was hot and accommodating; the mercury creeped up to an all-time high for April 9, and a cooling breeze swept the grandstand and ruffled the hair on the uncovered heads of the crowd. Even the Washington baseball players seemed to be under the hypnotic spell of the weather. They played irrepressible baseball. They batted well and hit the ball for distance. They ran daringly but calculatingly. They made impossible plays in the field. They scored as many runs as the day of the month. They played baseball as though they were to the Yankee manner born. Nothing seemed to be impossible for the Senators on Opening Day!

The visiting Baltimore Orioles, usually Washington's nemesis, by comparison, mind you, looked like bush leaguers, although their play was of major league caliber with an exception or two.

The newly painted stands were filled to overflowing with every type of baseball fan. There were those faithful fans who came principally because of their love for the game. You will see them at most of the home games. There were those curious fans who came to see if the "new Senators" looked exactly like the old Senators of last year's "fame." They will attend as long as the team is winning, but will stay away in droves if the team is in a losing streak. And then there were those present in the audience who came because Opening Day in Washington is like the first night at the opera—it is the thing to do, you know!

Congressmen, Senators of the Capitol Hill variety, Cabinet members, and sundry politicians were out in numbers. Television, radio and newspaper personalities were present. The clergy was represented. There were lawyers all over the premises. Many a patient had to change an appointment in her physician's office because the doctor was out at the ball game. Among our Medical Society friends present and recognized were cigar-chewing Dr. George Resta and entourage, Dr. Bill Cusack with his charming better-half a symphony in blue, and up in the stands Dr. Clyde Reeves with a friend dressed demurely in black on one side and a titian-haired beauty on the other side. I am sure there were many more medicos present that I could not recognize in that actively enthusiastic milling crowd.

President Eisenhower did not go but he sent his ambassador David dressed in his baseball cap and carrying a fielder's glove. Vice President Nixon did the throwing-out-the-first-ball routine and performed the honors as though he would like to repeat the procedure in 1960 and thereafter. There were a few Democratic dissidents present who were secretly thinking that come 1960 they could do the job much better, but they didn't express their dissenting views at that time.

All in all, for the dyed-in-the-baseball-vat Washington fan it was a great game, a great crowd, and a great day. However, the month of May should bring us better weather, and we all hope more of the same brand of baseball. If, nevertheless, the Washington Senators fold as they have in the past, we still have the sweet smelling May flowers, we still have fish to catch in the Bay, grass to cut in the yard, girls in shorts to admire, golf balls to knock silly, and, for the more strenuous type, tennis elbows to acquire.

* * *

Chuckle note: Two women were discussing a third. Said one, "Well, you have to admit that she is awfully kind to her inferiors." After a thoughtful pause the other retorted, "Yes, but where does she find them?" . . . Nothing is so likely to turn a middle-aged woman's hair gray as running out of rinse.

J. Earl Kadan, M.D.

REPORT ON DOCTORS' DAY OBSERVANCE

Dr. William Earl Clark was selected "District Doctor of the Year" by a joint committee of his colleagues from the Medical Society of the District of Columbia and the District of Columbia Chapter of Southern Medical Association. Dr. Clark, who said he felt like Cinderella, received advance congratulations on March 19 in the Medical Society's offices from the Vice President's wife, Mrs. Richard M. Nixon. Dr. Clark is Past President (1945–46) of the District Medical Society, and at 79 years of age is still engaged in the practice of internal medicine.

Several days later Mrs. Clark reported that the apartment was filled with flowers, that the telephone hadn't stopped ringing, and that hundreds of letters had arrived from as far away as Maine, Florida, and California. One colleague called to say he "had seen his ad in the paper." We think Dr. Clark, who has been in practice here for 53 years, is his own best advertisement.

On March 30, Doctors' Day, Dr. Clark had to hurry in order to include his daily pre-breakfast walk through the National Zoological Park. During the day he was interviewed by Mark Evans on WTOP-TV and again by Mr. Evans on WTOP-Radio. Dr. Harry Lee Claud told the story of Doctors' Day to Patty Cavin on Capital By-lines WRC-Radio.

At a 5 p.m. ceremony and tea in the Medical Society's Library, Mrs. William J. G. Davis, President of the District of Columbia Woman's Auxiliary to the Southern Medical Association, presented Dr. Clark with a bronze plaque inscribed "in grateful appreciation of his many years of service to the medical profession." Following its presentation, a telegram of congratulations from President Eisenhower was read by the Chairman of Doctors' Day.

Among the many friends on hand to offer congratulations were his family, his children and grandchildren, as well as his entire office staff. When asked where he would hang the plaque in an office filled with many sailing pictures and personal mementoes, he replied, "Well, one of the boat pictures will just have to go."

On March 27, the District Commissioners, in official ceremonies in the District Building, proclaimed March 30 as Doctors' Day in the District of Columbia. Dr. Clark accepted the Proclamation for our Auxiliary.

Nearly all the hospitals in the city placed red carnations, the official flower of Doctors' Day, in their lobbies, and several gave out red carnation boutonnieres to their staff members as they entered the hospital. Some hospitals participated by having breakfasts, "brunches," or luncheons for their doctors.

THE SECOND LADY HONORS DR. CLARK

Mrs. Richard M. Nixon took time out from her busy schedule to extend greetings to Dr. William Earl Clark in the Medical Society's offices prior to Doctors' Day. Both appear pleased with the special plaque which was presented to Dr. Clark on March 30.

Special notes of greetings were sent to nearly 60 Life members of the Medical Society by our Committee.

The Woman's Auxiliary to the Medical Society of the District of Columbia and the D. C. Woman's Auxiliary to the Southern Medical Association sponsored a dance in honor of all doctors at Columbia Country Club on Saturday, April 4. Red carnation boutonnieres and many lovely door prizes added to the festivities.

Mrs. George William Ware
Chairman, Doctors' Day Committee,
District of Columbia Auxiliary to
the Southern Medical Association

News and Personals

MEETINGS

The 108th Annual Meeting of the American Medical Association will convene in Atlantic City, N. J., June 8-12. The meeting is expected to attract some 15,000 physicians, who will listen to medical research findings and methods of handling daily medical problems reported by more than 400 physicians in scientific papers or through participation in symposia and discussion groups. There will be 387 scientific exhibits and 285 industrial exhibits on display in Convention Hall. The House of Delegates will meet at the Traymore Hotel.

The Medical Society of the District of Columbia will be officially represented by its delegates, Drs. Raymond T. Holden and Ralph M. Caulk, and by its President, Dr. W. LeRoy Dunn, and Secretary, Theodore Wiprud. It is expected that a sizable proportion of the membership of the Society will be in attendance this year.

Dr. Louis M. Orr, of Orlando, Fla., will be inaugurated as President of the AMA on Tuesday evening.

Dr. Victor R. Alfaro, President-elect of the Medical Society, is Chairman of the AMA's Section on Laryngology, Otology and Rhinology. He will preside at the Section meetings and will give the Chairman's Address.

Dr. Stanhope Bayne-Jones, an Active member of the Medical Society, will receive the $5,000 Passano Award for 1959 on Wednesday evening, June 10. A reception and dinner in his honor will be held at the Traymore Hotel.

One of the features of this year's convention will be a Symposium on New Concepts in Aging. This one-day session will be held in Room C of Convention Hall, beginning at 9 a.m., Wednesday, June 10. Physicians are invited to send questions or points they would like to have discussed to the Committee on Aging, AMA, 535 North Dearborn Street, Chicago 10, Illinois, before May 27.

The seventh annual National Civil Defense Conference, sponsored by the AMA's Council on National Defense, is scheduled for Saturday, June 6. The program will be presented by the Army Medical Service.

The Woman's Auxiliary to the AMA will meet Tuesday through Thursday in sessions at Hotel Haddon Hall.

Advance hotel and meeting registration may be made through the Convention Services Department of the AMA, 535 North Dearborn Street, Chicago 10, Illinois.

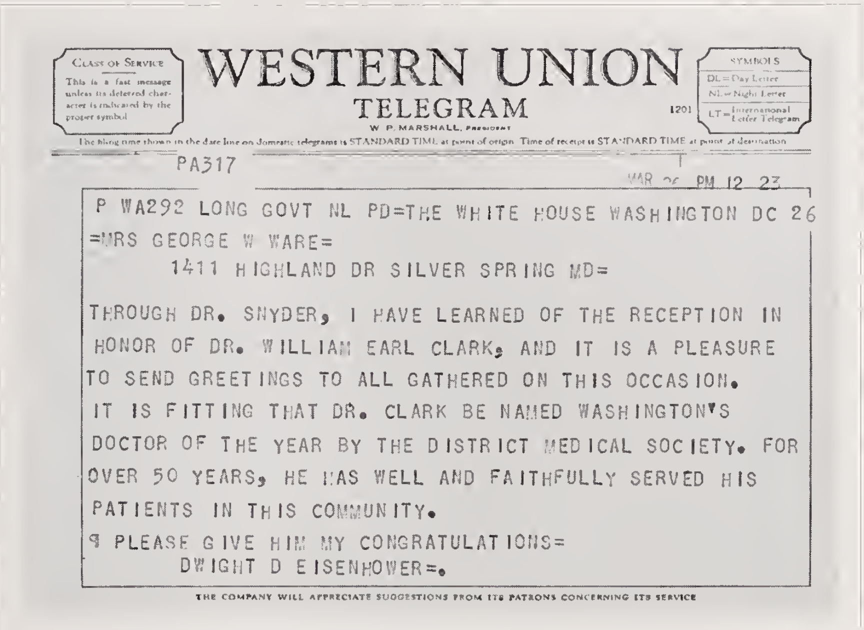
The Seventh Annual William L. Keller Memorial Lecture will be held at the Sternberg Auditorium, Walter Reed Army Medical Center, May 21, at 8 p.m. The lecturer will be Dr. Frank Glenn, of the New York Hospital-Cornell Medical Center in New York City. His subject will be "Lesions of the Parathyroid, Adrenals and Thymus Amenable to Surgery." This lecture is the concluding one in the current series of the Surgeon General's Medical Meetings. They will be resumed in the fall.

The Montgomery County Tuberculosis and Heart Association will sponsor an all-day **Symposium on Heart Disease** at the Clinical Center Auditorium of the National Institutes of Health in Bethesda, Md., May 21. Speakers will be present from Johns Hopkins University, Maryland University, Georgetown and George Washington Universities, and the National Institutes of Health. Registration will open at 9 a.m. and the program will begin at 9:30 a.m. There will be no registration fee.

A Symposium on Hypertension will be televised from the Cleveland Clinic, May 27, to closed-circuit locations in 25 cities in the United States. In Washington, the program will be viewed in the auditorium of the Medical Society's building beginning at 9 p.m.

Dr. Samuel H. Proger, of Tufts University School of Medicine, will be Moderator of the Symposium. Participating will be Dr. Edward D. Freis, of Georgetown University; Drs. Harriet P. Dustan and Irvine H. Page, of the Cleveland Clinic; and Dr. Robert W. Wilkins, of Boston University. All physicians and medical students are invited to attend.

The program is under the sponsorship of the Ciba Pharmaceutical Products, Inc.



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W. P. MARSHALL, PRESIDENT

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P WA292 LONG GOVT NL PD=THE WHITE HOUSE WASHINGTON DC 26
=MRS GEORGE W WARE=
1411 HIGHLAND DR SILVER SPRING MD=

THROUGH DR. SNYDER, I HAVE LEARNED OF THE RECEPTION IN HONOR OF DR. WILLIAM EARL CLARK, AND IT IS A PLEASURE TO SEND GREETINGS TO ALL GATHERED ON THIS OCCASION. IT IS FITTING THAT DR. CLARK BE NAMED WASHINGTON'S DOCTOR OF THE YEAR BY THE DISTRICT MEDICAL SOCIETY. FOR OVER 50 YEARS, HE HAS WELL AND FAITHFULLY SERVED HIS PATIENTS IN THIS COMMUNITY.

¶ PLEASE GIVE HIM MY CONGRATULATIONS=
DWIGHT D EISENHOWER=.

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

WHITE HOUSE CONGRATULATIONS FOR DR. CLARK

Congratulatory telegram from PRESIDENT DWIGHT DAVID EISENHOWER which Mrs. George W. Ware, Chairman of Doctors' Day Committee of the District Auxiliary to the Southern Medical Association, read at the reception and tea for DR. WILLIAM EARL CLARK on Doctors' Day, March 30.

The Second Annual All-day Cardiac Symposium, to be sponsored by the Heart Association of Northern Virginia, Inc. will be held, June 3, at Marriott's Motor Hotel at the Twin Bridges on Route 1, near the south entrance of 14th Street Bridge.

The meeting will cover two major topics of interest to physicians with cardiac patients: (1) Surgically Reversible Heart Disease—Its Diagnosis and Treatment; and (2) Cardiac Resuscitation.

Participants in the Symposium will include Drs. Charles A. Hufnagel and W. Proctor Harvey, of Georgetown University; Drs. Helen Taussig and Henry T. Bahnson, of Johns Hopkins University; and Drs. Alexander S. Nadas and Paul M. Zoll, of Harvard University.

Chairman of the meeting is Dr. Raymond L. Schwartz, of Arlington, Virginia. Last year's Cardiac Symposium was attended by more than 200 physicians.

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia held its regular meeting on March 23, with Chairman McLendon presiding. The Committee on Postgraduate Education reported to the Board that at its first meeting Dr. Seymour Alpert was elected Chairman and Dr. Howard S. Madigan, Vice Chairman.

At the suggestion of a member of the Society, the Board voted that Senator Lister Hill, of Alabama, be proposed for Honorary membership at the next business meeting of the Society.

President-elect Alfaro submitted for approval the name of Dr. Donald Stubbs as General Chairman of the Local Committee on Arrangements for the 1960 Clinical Session of the American Medical Association, which will be held in Washington. The appointment was confirmed by the Board.

At the request of the Health and Welfare Council of the National Capital Area, Dr. Jack Kleh was reappointed to the Aging Conference of HWC for 1959-60. Dr. Richard H. Todd was appointed delegate to HWC's Trustees' Assembly for the year 1959-60.

Other appointees submitted by President Dunn and confirmed by the Board were: Dr. Edward A. Cafritz, to the Committee on Industrial Health;

Dr. Clayton Hixson, representative to the U. S. Pharmacopeial Convention in 1960; Dr. J. Ross Veal, delegate to the annual meeting of the U. S. Chamber of Commerce, to be held in Washington, D. C., April 26. This was a reappointment for Dr. Veal.

Dr. Henry Welch, Chairman of the **Seventh Annual Symposium on Antibiotics,** to be held, November 4, 5 and 6, at the Mayflower Hotel, submits the following information for those who would like to contribute a paper to be read at this Symposium. The registration fee is $1 per person. Three copies of the abstract must be submitted by September 14, 1959, and should contain approximately 200 words. It should state where the work was done, what was done, the results obtained, and the conclusions reached. An original manuscript and one copy must be submitted by October 15, 1959. Complete instructions for the preparation of the manuscripts may be obtained from Dr. Welch, Director, Division of Antibiotics, Food and Drug Administration, Washington 25, D. C.

The papers presented at the Symposium will be published in the Antibiotics Annual 1959–1960 by Medical Encyclopedia, Inc. The book will be available approximately 6 months after the meeting.

Ground-breaking ceremonies will be held on the site of the new **National Library of Medicine building** on the grounds of the National Institutes of Health in Bethesda, Md., at 2:30 p.m., Friday, June 12. Secretary Arthur S. Flemming, of the Department of Health, Education, and Welfare, will give a short address. Senator Lister Hill, co-author of the National Library of Medicine Act, will turn the first spade of earth. The Chairman of the Board of Regents of the National Library of Medicine, Dr. Champ Lyons, will be in charge of the proceedings.

Dr. Austin Smith, formerly Editor of *The Journal of the American Medical Association*, was elected first full-time salaried President of the Pharmaceutical Manufacturers Association, whose headquarters are in the Albee Building, Washington, D. C.

His election early in April at the Annual Convention of PMA, in Boca Raton, Fla., followed the 1958 merger combining the American Drug Manufacturers Association and the American Pharmaceutical Manufacturers Association. PMA represents 140 of the Nation's leading drug manufacturers.

An editorial in the April 1959 issue of the *Journal of APA* commented: "The somewhat radical departure in selecting a physician, who has not grown up in or been previously associated with industry, to act as their leader is a most significant development in the progress of the PMA which, we believe, will merit general approval."

Dr. Byron J. Olson, Chief of the Epidemiology and Immunization Branch, Division of Foreign Quarantine, Public Health Service, has requested the Editor of the ANNALS to insert the following notice: That physicians who vaccinate persons for international travel have the International Certificates of Vaccination authenticated by the local health officer of the area in which they practice. The addresses of these health officers are:

DISTRICT OF COLUMBIA: Health Officer
D. C. Health Department
300 Indiana Avenue, N.W., Room 6150
Tel. National 8-6000, Ext. 2128

VIRGINIA: Arlington County Health Officer
1800 North Edison Street
Arlington, Virginia
Tel. Jackson 7-4000

Alexandria City Health Officer
517 North St. Asaph Street
Alexandria, Virginia
Tel. King 9-7700

Fairfax County Health Officer
3901 Richmond Highway
Fairfax, Virginia
Tel. Crescent 3–2050

MARYLAND: Montgomery County Health Officer
County Office Building
Rockville, Maryland
Tel. Poplar 2-2121

Prince Georges County Health Officer
County Service Building
Hyattsville, Maryland
Tel. Union 4-7500
or
Marlborough, Maryland
Tel. Market 7-3341

The Board of Trustees of Group Hospitalization, Inc., held its annual meeting, March 30, 1959. The following officers were elected for the ensuing year: The Honorable Joseph H. Himes, Chairman of the

Board; F. P. Rawlings, Jr., President; Alfred G. Neal, First Vice President; Charles D. Drayton, Second Vice President; James H. Lemon, Secretary; and Bruce Baird, Treasurer. Dr. O. Hugh Fulcher, the District Medical Society's appointee, was elected to the Board, succeeding Dr. Richard H. Todd.

Other Medical Society members remaining on the Board are: Drs. A. Magruder MacDonald, Howard P. Parker, and Ralph D. Whitley.

President Rawlings was named to the Blue Cross Commission of the American Hospital Association, April 16, during the Annual Conference of Blue Cross Plans in Miami Beach, Fla. Mr. Rawlings will serve on the Commission for 2 years as elected representative from Blue Cross Plan District 5, which consists of 16 Plans that serve the District of Columbia area and the states of Virginia, Maryland, West Virginia, North Carolina, South Carolina, and Kentucky. The Commission is the national policy-making body for the 83 Plans in the United States, Canada and Puerto Rico.

The Woman's Auxiliary to the Medical Society of the District of Columbia elected new officers for the coming year at its regular meeting in the Medical Society's building, March 11. They are:

President-elect: Mrs. James P. Murphy
First Vice President: Mrs. Samuel A. Alexander
Second Vice President: Mrs. Charles Tegge
Recording Secretary: Mrs. James H. Scully
Assistant Recording Secretary: Mrs. George H. Crofton
Corresponding Secretary: Mrs. Roger Williams
Assistant Corresponding Secretary: Mrs. Harry N. Carlton
Treasurer: Mrs. O. Hugh Fulcher
Assistant Treasurer: Mrs. Francis J. O'Bryan

Mrs. G. Louis Weller, Jr., who has served as President-elect during 1958–59, will take office as President on July 1. She will succeed Mrs. M. Noel Stow.

The Washington Psychiatric Society held its annual meeting and election of officers, March 27. The following officers were elected for 1959–60:

Dr. Marvin L. Adland, *President-elect*; Dr. Leon Yochelson, *Secretary*; and Dr. Morris Kleinerman, *Treasurer*.

Dr. Norman Taub, who was President-elect last year, will assume the office of President on May 1.

At this meeting, special recognition was given to **Dr. Addison M. Duval,** retiring Assistant Superintendent of St. Elizabeths Hospital. Dr. Duval was one of the founders of the Washington Psychiatric Society 10 years ago and its first President. After 30 years of service at St. Elizabeths Hospital, he is leaving to become the Commissioner of Mental Health for the State of Missouri. Drs. Zigmond M. Lebensohn and Robert T. Morse made testimonial addresses, and a gift was presented Dr. Duval from the Society.

As on all previous annual meetings, members were addressed by the President of the American Psychiatric Association. Dr. Francis Gerty spoke on "Specialization and Subspecialization."

The Montgomery County Pediatric Society elected officers, March 19. They are:

Dr. Carolyn H. S. Pincock, Silver Spring, *President*; Dr. Allen E. Marans, Silver Spring, *Vice President and President-elect*; Dr. Ralph Stiller, Silver Spring, *Secretary*; and Dr. Ira W. Pearlman, Chevy Chase, *Treasurer*.

All the officers are Associate members of the District Medical Society with the exception of Dr. Marans, who recently resigned. The Pediatric Society has a membership of 40.

Dr. William L. Granatir was elected President of the Board of Managers of the **Washington Institute of Mental Hygiene,** March 31, succeeding **Dr. Winfred Overholser.** Dr. Overholser, who had served in the position for 17 years, was made President Emeritus and was elected to the Board for a 3-year term of office.

Two special ceremonies marked March 19 at **Georgetown University Medical Center.** The Lawrence C. Gorman Diagnostic and Research Building and the Kober-Cogan Students' Dormitory for medical and dental students were dedicated in the morning on the esplanade of the Gorman Building. Assisting in the dedication of the two buildings was President Sean T. O'Kelly, of Ireland.

In afternoon ceremonies in the McDonough Memorial Gymnasium, an academic convocation honored the faculties of the Medical Center. The honorary degree, Doctor of Laws, was conferred upon Arthur S. Flemming, Secretary of Health, Education, and Welfare, who delivered the convocation address.

Honorary degrees of Doctor of Science were also conferred upon Dr. Fred R. Sanderson, Professor Emeritus of Surgery at Georgetown; Dr. Alfred Blalock, surgeon at Johns Hopkins University; and Dr. Clemens V. Rault, Dean of the Georgetown University School of Dentistry. The Georgetown University Medal of Merit was awarded to Miss Mary Catherine Wisler, Associate Dean of the School of Nursing.

FRED R. SANDERSON, M.D., D.Sc.

Dr. Sanderson is an alumnus of Georgetown University School of Medicine and was a member of Georgetown's teaching faculty in surgery from 1922 to 1947, the last 5 years as Professor of Surgery.

The Vicennial Medal, awarded to faculty members in recognition of 20 years of service to the institution, was given to 12 professors at the ceremony. Among the recipients were Drs. Milton C. Cobey, Irvin Feldman, Milton M. Greenberg, Henry A. Grennan, Benjamin Mundell, Bertram Schaefer, Louis Schwartz, Robert Stolar, and Paul R. Wilner, all of the School of Medicine. The medal they received was of silver, indicating part-time service.

The Gorman Diagnostic and Research Building, a $3 million structure, joins the existing Hospital building on the south and is connected to it by a passage. It is a memorial to the late Lawrence C. Gorman, S. J., President of Georgetown University from 1942 to 1949, under whose administration the University Hospital was erected.

The Kober-Cogan Dormitory for medical and dental students is east of the new Gorman Diagnostic building. Air-conditioned throughout, the dormitory houses 200 students in double rooms. Built at a cost of $1,227,000, it has 6 stories and a basement. It will perpetuate the memory of Dr. George M. Kober, who served as Dean of Georgetown University School of Medicine from 1900 to 1929, and of Dr. William N. Cogan, first Dean of the School of Dentistry.

Dr. John M. Rumball has been appointed **Director of Medical Service for the Veterans Administration Central Office** in Washington, D. C. Dr. Rumball comes to Washington from Florida, where he was Chief of Medical Service at the VA Hospital in Coral Gables. He was also Associate Professor of Medicine at the University of Miami School of Medicine.

Dr. Rumball received his medical degree from the University of Minnesota. He is a diplomate of the American Board of Internal Medicine and a veteran of World War II. During the War he was assigned to VA and served from 1944 to 1946. He holds the rank of Colonel in the Army Reserve.

Children's Hospital of the District of Columbia dedicated its new **Variety Club Research Center,** March 22. Dr. Leroy E. Burney, Surgeon General of the Public Health Service, gave the dedicatory address.

The Research Center commemorates the Variety Club's former Chief Barker, the late Fred S. Kogod. It is located next to the Hospital at 12th and W Streets, N.W. Toward the cost of construction, approximately $800,000, $200,000 was contributed by the Variety Club of Washington.

The Research Foundation of Children's Hospital was incorporated in 1947. Its President is Dr. Edgar W. Davis; the Director of the Foundation is Dr. Robert H. Parrott, Physician-in-chief of the Hospital.

Hahnemann Hospital, located at 135 New York Avenue, N.W., closed its doors on April 15. Founded

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
February 18	Dr. John R. Cavanagh	Teen-age Problems	Church of the Little Flower
February 27	Dr. John R. Cavanagh	Education for Marriage	Gonzaga Parents' Association
March 9	Dr. Warren C. Johnson	Status of Hospital Recreation	National Association of Recreational Therapists
March 10	Dr. John R. Cavanagh	Understanding the Teen-ager	Students of John Hanson Junior High School, Oxon Hill, Md.
March 18	Dr. Warren C. Johnson	Industrial Psychiatry	American Institute of Banking
April 10	Dr. Peter D. Comanduras	"Operation Medico" in the Near and Far East	Congressional Club
May 5	Dr. Grafton T. Brown	The Common Allergies	Graduate Nurses, Doctors Hospital
May 12	Dr. Darrell C. Crain	The Treatment and Nursing of Arthritis	
May 19	Dr. Allan M. McKelvie	Care of the Fractured Hip	

in 1887, it was known as the National Homeopathic Hospital until it was converted to a general hospital in 1953.

The Hospital recently completed a merger with **Sibley Hospital**, which held ground-breaking ceremonies, April 20, prior to construction of an $8½ million, 350-bed hospital, complete with interns' residence and a school of nursing, at Loughboro Road and Dalecarlia Parkway, N.W. This site was formerly occupied by the National Training School for Girls. After the new hospital is completed, the outpatient clinic will be known as the Hahnemann Clinic.

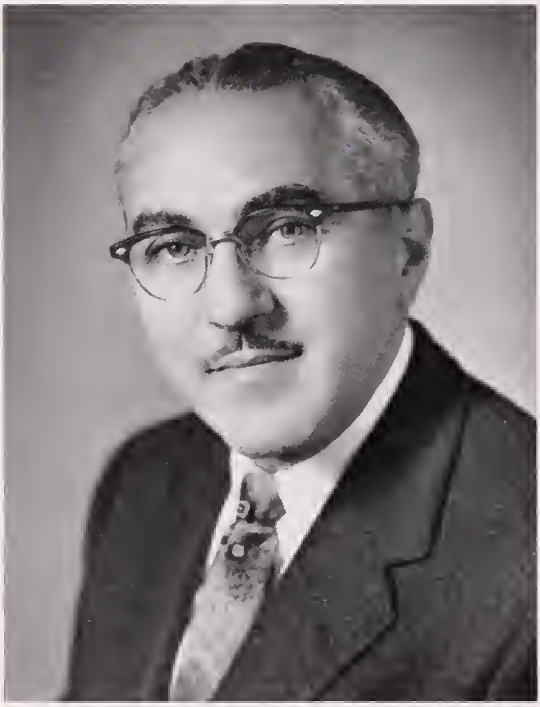
George Washington University Hospital was presented with a 2-channel electromyograph machine, March 26, by the Greater Washington Multiple Sclerosis Association and the Hexagon Club. The machine, which is used in the diagnosis of neuromuscular disorders, was presented to Dr. Charles S. Wise by Messrs. William R. Morriam and George Denby, officers of the two Associations.

The Labor-Management Health Center for D. C. Transit employees and their families was opened, April 3, as the first such center in the Washington Metropolitan Area. Located at 6854 New Hampshire Avenue, Takoma Park, Md., the 3-story building was renovated at a cost of more than $250,000. The Center is designed to provide complete medical care for some 9,000 persons through a program financed jointly by the D. C. Transit management and the Transit Employees' Health and Welfare fund. It coördinates medical, surgical and hospital care for Transit employees and their families with the existing program of Group Health Association.

AFL-CIO President George Meany gave the dedicatory address in special ceremonies, April 6. Other participants in the ceremonies were Mr. O. Roy Chalk, President of the D. C. Transit System; Senator Wayne L. Morse (Oregon); Mr. Lane Kirkland, Vice President of Group Health Association; and Mr. Walter Bierwagen, head of the National Capital Local Division 689 of the Transit Union.

PERSONALS

Dr. I. Phillips Frohman was one of two winners of the 1959 Ross Awards at the 11th Annual Scientific Assembly of the American Academy of General Practice, which was held in San Francisco, April 6–9. The awards of $1,000 each are sponsored annually by Ross Laboratories, of Columbus, Ohio, and are presented to the two Academy members who author the most significant scientific articles published in GP. The other winner was Dr. Stanley R. Truman, of Oakland, California.



I. PHILLIPS FROHMAN, M.D.

Among the judges for the Ross Awards was Dr. John L. Parks, Dean of George Washington University School of Medicine. The other judges were Dr. D. W. E. Bair, of the University of Oregon, and Dr. Mark R. Everett, of the University of Oklahoma.

The article for which Dr. Frohman received his award was entitled, "Radioisotopes and the General Physician," which appeared in the October 1958 issue of GP. Dr. Frohman recently received one of the 1958 *Medical Economics* Awards for his article, "Is Your Practice Running You Ragged?" which was published under a pen name in the November 1958 issue.

Dr. John M. Keshishian, Instructor in Surgery at George Washington University School of Medicine, is one of a medical team of 5 doctors and 2 nurses which is being sent to South Viet Nam through the joint efforts of the International Cooperation Administration and MEDICO. The medical group, all volunteers, will serve without pay. They will treat actual cases of pulmonary tuberculosis and demonstrate up-to-date methods of treatment of lung disease to Viet-Namese medical personnel in Saigon's Cho Ray Hospital. Dr. Keshishian plans to leave June 10 and will return to his practice, August 20.

The medical mission, requested by the Viet-Namese government, developed out of an inspection trip made in Asia last year by Dr. Peter D. Comanduras, Secretary-General of MEDICO, and others.

Dr. Zigmond M. Lebensohn has been appointed to the American Medical Association's new Committee on Medical Use of Hypnosis. This Committee is part of the AMA's Council on Mental Health, which last summer prepared a report on the medical use of hypnosis. Dr. Harold Rosen, Baltimore, is Chairman of the Committee. The third member is Dr. Louis J. West, of Oklahoma City.

Dr. Daniel Blain, formerly Medical Director of the American Psychiatric Association, has been appointed Director of the State of California Department of Mental Hygiene by Governor Brown.

Dr. Winfred Overholser, Superintendent of St. Elizabeths Hospital, was elected Corresponding Member of the Danish Psychiatric Society at its 50th annual meeting.

Dr. Lawrence Lilienfield was appointed to the Program Committee of the Circulation Section of the American Heart Association in February.

THELMA DUNN, M.D.

Dr. Thelma Dunn, Chief of the Cancer Induction and Pathogenesis Section of the Laboratory of Pathology, National Cancer Institute, was honored as Woman of the Year by the Women's Medical Society of the District of Columbia, April 7, at a dinner at the Kennedy-Warren. Dr. Dunn was cited as one of the Women of the Year by the American Medical Women's Association, November 16.

Additional honors have come recently to Dr. Dunn, who is the wife of Dr. W. LeRoy Dunn, President of the Medical Society. She was recently appointed to the Board of Directors of the American Association for Cancer Research. She is also the new President of the Washington Society for Pathologists. Other officers elected, April 1, were: Dr. William Newman, Vice President, and Dr. Daniel Weiss, Secretary-Treasurer.

Dr. Ralph M. Caulk, Senior Attending, Department of Radiology and President of the Medical Staff of Washington Hospital Center, was elected to the Board of Chancellors of the American College of Radiology during the Annual Meeting of the College in Chicago, February 4–5.

Dr. Murray M. Copeland, Professor of Oncology, Georgetown University School of Medicine, has been appointed Vice Chairman of the Committee on Cancer of the American College of Surgeons, to become effective in September.

Dr. Laurence H. Kyle, Professor of Medicine, Georgetown University School of Medicine, visited Puerto Rico in March as consultant to the Armed Forces. During his visit he lectured before the staff of the Bayamon District Hospital.

Dr. Pearce Bailey served on the Program Committee for the Second International Symposium on Myasthenia Gravis, which was held in Los Angeles, Calif., April 18–19. The Symposium was co-sponsored by the Myasthenia Gravis Foundation, Inc., and the National Institute of Neurological Diseases and Blindness, which Dr. Bailey heads.

Dr. Jerome F. Crowley has been reëlected to the Board of Directors of Columbia Hospital for Women for a 3-year term.

Dr. Julius Schreiber has been named to the Advisory Board of the Big Brothers of D. C., an affiliate of the Big Brothers of America.

Dr. Harold W. Schnaper was elected to Associate membership in the American College of Physicians in February.

Dr. Charles W. Clark was recently certified by the American Board of Urology.

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, March 23, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

William G. Ballinger, 1746 K Street, N.W.
Irving L. Berman, 6304 Marjory Lane, Bethesda, Md.
Neville K. Connolly, 1150 Connecticut Avenue, N.W.
Randolph A. Frank, 2025 Eye Street, N.W.

Richard Henson Irving, 810 New Jersey Avenue, N.W.
Ernest Wellman Lowe, 1349 Ingraham Street, N.W.
Thomas W. Mattingly, Washington Hospital Center
Robert J. McCarthy, 1801 Eye Street, N.W.
Robert Ostrove, 900 17th Street, N.W.
Julian C. Perry, Jr., 3800 25th Place, N.E.
Leslie E. Sanders, 7148 Alaska Avenue, N.W.
Mary F. Watt, 2700 Q Street, N.W.

Associate Members

Sydney Green, 2025 Eye Street, N.W.
Yu Ming Hu, 7205 MacArthur Blvd.
Joachim A. K. Kluger, 1908 August Drive, Silver Spring, Md.
Peter C. Luchsinger, D. C. General Hospital
Timothy J. Tehan, 5901 Avon Drive, Bethesda, Md.

Resident-Intern Members

Herbert S. Gates, Jr., 4313 N. Pershing Drive, Arlington, Va.
Howard G. McQuarrie, 1309 North Ode Street, Arlington, Va.
Alvin Szojchet, 3538 A Street, S.E.

The following applicants for membership will be voted on at the meeting of the Executive Board, June 22, 1959.

For Active Membership

Francis A. Board, University of Rochester—1951
Charles Howell Clark, Howard University—1949
Harry L. Day, Yale University—1934
Charles E. Edwards, Georgetown University—1955
Ruth Kerr Jakoby, Columbia University—1953
Edward H. Levine, University of Colorado—1946
Gerald E. Meerkreebs, Ohio State University—1954
Mathew Ross, Tufts University—1942

For Associate Membership

Otis L. Anderson, University of Nebraska—1929
Recep Ari, Istanbul University (Turkey)—1945
William Otis Bailey, George Washington University—1912
Ottavio Gelmi, University of Milan (Italy)—1952
Charles E. Goshen, Columbia University—1942
Kenneth M. Moser, Johns Hopkins University—1954
Thomas F. O'Connor III, Georgetown University—1955
Annemarie Wanko, University of Vienna (Austria)—1944

Recent changes in membership status:

Active to Affiliate

Charles E. Hannan
John R. Weimer

Active to Associate

James E. Abell
George J. Fleury, Jr.
Walter H. Gerwig
James P. Hartley
Irwin Siegel

Active to Resident-Intern

B. Edward Wyman

Resigned

Active

Thomas H. Alphin
Richard H. Kosterlitz
Georges F. McCormick
J. Malcolm McNeill

Associate

Edward J. Carry
James W. Egan
Roscoe W. Hall
Karen Howard
Stephen R. LoVerme
George R. Spence
Francis J. Tartaglino
M. M. Vozenilek
Charles C. West

Resident-Intern

Z. J. Vozenilek

CALLING ALL PHYSICANS, THEIR FAMILIES AND FRIENDS

to combine fun and philanthropy by attending

AN EVENING OF HARNESS RACING AT THE LAUREL RACEWAY

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Entire Advance Ticket Sale Proceeds to Nursing Education Program, Washington Hospital Center

Grandstand tickets $1.50; Clubhouse tickets $3.00

Available at

AAA, Maryland and D.C. Hecht Stores, Lobby of Washington Hospital Center; or call Wonen's Division, WHC, Tuckerman 2-5500, Ext. 772

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Symposia on Child and Juvenile Delinquency. Presented at the American Orthopsychiatric Association. Chaired and edited by BENJAMIN KARPMAN, M.D., Chief Psychotherapist, St. Elizabeths Hospital, Washington, D. C. Illustrations by Wesley R. Wilken. Price, $10.00. Pp. 364. Washington, D. C.: Psychodynamics Monograph Series, 1959.

Practical Dermatology, 2nd ed. GEORGE M. LEWIS, M.D., F.A.C.P., Professor of Clinical Medicine (Dermatology), Cornell University Medical College; Attending Dermatologist, The New York Hospital. Pp. 363, with 121 illustrations. Philadelphia: Saunders, 1959.

Bone Tumors, 2nd ed. LOUIS LICHTENSTEIN, M.D., Chief Pathologist, General Medical and Surgical Hospital, Veterans Administration Center, Los Angeles; Fellow, New York Academy of Medicine; Professor Extraordinario, National University of Mexico; Consultant in Bone Tumors, Tumor Tissue Registry of California Medical Association Cancer Commission; Consultant in Pathology, Los Angeles County Hospital; Consultant, City of Hope Medical Center. Pp. 402, with 220 illustrations. St. Louis: Mosby, 1959.

The Chemical Prevention of Cardiac Necroses. HANS SELYE, M.D., PH.D., D.SC., Professor and Director of the Institute of Experimental Medicine and Surgery, University of Montreal, Montreal, Canada. Price, $7.50. Pp. 235. New York: Ronald Press Company, 1958.

HOMER GIFFORD FULLER, Ph.B., M.D., F.A.C.S.

(1879-1959)

Dr. Homer G. Fuller, genitourinary surgeon, and Life member of the Medical Society of the District of Columbia, died in Doctors Hospital, February 13, 1959. His home was at 2400 16th Street, N.W.

Dr. Fuller was born in Derby, Connecticut, January 10, 1879, of lineage which he could trace back on his father's side to Elder Brewster, who came to America on the *Mayflower*, and on his mother's side to General Amariash Kibbe, who fought in the Revolutionary War. He had lived in Washington since the age of 12 and attended its public schools.

Dr. Fuller graduated from Sheffield Scientific School at Yale University in 1901 with the degree of Bachelor of Philosophy. He received his medical degree in 1904 from Columbian (now George Washington) University and interned at old Garfield Memorial Hospital. Beginning the private practice of medicine in the District of Columbia in 1905, he continued in practice for 40 years, until disabilities forced him into semi-retirement in 1944.

He was on the staff of Garfield Hospital from 1920 to 1944. He was also Clinical Professor of Urology at George Washington University for a number of years.

He was elected to membership in both the Medical Society and the Medical Association of the District of Columbia in 1906 and became a Life member of the Society in 1947. He was a diplomate of the American Board of Urology; a Fellow of the American College of Surgeons; and a member of the American Urological Society, the American Association of Genito-Urinary Surgeons, and the Clinico-Pathological Society.

He is survived by his wife, Mrs. Meta K. Fuller; a son, Bruce K. Fuller, of 1424 Hamilton Street, N. W.; and a sister, Miss Helen C. Fuller, of 1290 Crittenden Street, N. W.

Thrombo-embolism—Downing

(Continued from page 251)

13. ALLEN, E. V.: Symposium on Anticoagulants. Am. Coll. Phys., Annual Meeting, St. Louis, Mo., Apr. 9–13, 1951.
14. HARRISON, T. R., AND OTHERS, Editors: Thrombophlebitis, in Principles of Internal Medicine, 2nd ed. New York: Blakiston, 1954.
15. FRIEDBERG, C. K.: Diseases of the Heart, 2nd ed. Philadelphia: Saunders, 1956.
16. ALLEN, E. V., BARKER, N. W., AND HINES, E. A., JR.: Peripheral Vascular Diseases, 2nd ed. Philadelphia: Saunders, 1955.
17. DECAMP, P. T., OCHSNER, A., AND DEBAKEY, M. E.: Ann. Surg., 1951, **133**, 611.
18. DONALDSON, G. A.: Personal communication (July 1952).
19. FARMER, D. A., AND SMITHWICK, R. H.: Angiology, 1950, **1**, 291.
20. BYRNE, J. J.: New England J. Med., 1955, **253**, 579.

21. Trimble, I. R., and Lynn, D. H.: Ann. Surg., 1952, **135,** 681.
22. Hussey, H. H.: Pulmonary Embolism, in Current Therapy 1957, edited by Conn, H. F. Philadelphia: Saunders, 1957, pp. 79–83.
23. Byrne, J. J., and O'Neil, E. E.: Am. J. Surg., 1952, **83,** 47.
24. Meyer, N.: J.A.M.A., 1957, **165,** 681.
25. Soffer, A.: Am. J. M. Sc., 1955, **229,** 475.
26. Anlyan, W. G., Shingleton, W. W., and DeLaughter, G. D., Jr.: J.A.M.A., 1956, **161,** 964.
27. Paterson, J. C., and McLachlin, J. A.: Surg. Gynec. & Obst., 1954, **98,** 96.
28. McLachlin J. A., and Paterson, J. C.: Ibid., 1951, **93,** 1.
29. Knisley and Warner: Thrombosis and Embolism, in Proceedings of the First International Conference, Basel 1954, edited by Koller, T., and Merz, W. R. Basel: Schwabe, 1955, p. 377.
30. Wessler, S., Cohen, S., and Fleischner, F. G.: New England J. Med., 1956, **254,** 413.
31. Allen, J. G.: Phlebothrombosis and Thrombophlebitis, in Current Therapy 1957, edited by Conn, H. F. Philadelphia: Saunders, 1957, p. 627.
32. Waller, J. V.: J.A.M.A., 1957, **165,** 344.
33. London, S. B., and London, R. E.: Ann. Int. Med., 1957, **46,** 976.
34. Kaplan, B. M., and others: Ann. Int. Med., 1956, **45,** 505.
35. Crane, C.: New England J. Med., 1957, **257,** 147.
36. Litter, J.: M. Clin. North America, 1952, **36,** 1309.
37. Coke, L. R., and Dundee, J. C.: Canad. M. A. J., 1955, **72,** 907; The Year Book of Medicine, 1956–1957, p. 195. Chicago: Yr. Bk. Pub.
38. Ring, A., and Bakke, J. R.: Ann. Int. Med., 1955, **43,** 781.
39. Lushbaugh, C. C., and Steiner, P. E.: Am. J. Obst. & Gynec., 1942, **43,** 833.
40. Bauer, G.: Acta chir. scandinav., 1942, **86,** 267.
41. Myers, G. B., and Talmers, F. N.: Ann. Int. Med., 1955, **43,** 361.
42. Silverman, J. J.: J.A.M.A., 1958, **166,** 725.
43. Ramirez, T. O., and Ramirez, R. S.: Am. Heart J., 1955, **50,** 366.
44. Carlotti, J., Hardy, I. B., Jr., Linton, R. R., and White, P. D.: J.A.M.A., 1947, **134,** 1447.
45. Ostrow, B. H., Polis, G. N., and Evans, J. M.: SGOT in pulmonary embolism. Abstracted, Clin. Res. Proc., 1956, **4,** 155.
46. Denney, J. L., and others: J.A.M.A., 1956, **161,** 614.
47. Goldstein, F., Israel, H. L., and Seligson, D.: New England J. Med., 1956, **254,** 746.
48. Rudolph, L. A., Dutton, R., and Shaefer, J. S.: Glutamic oxalacetic transaminase levels in experimental tissue damage. Abstracted, J. Clin. Invest., 1955, **34,** 960.
49. Walsh, J. R., Humoller, F. L., and Gillick, F. G.: Ann. Int. Med., 1957, **46,** 1105.
50. Dittler, E. L.: Dis. Chest., 1956, **29,** 215.
51. Miller, R. (Ann Arbor, Mich.), and Berry, J. B.: Am. J. M. Sc., 1951, **222,** 197.

Genetic Counseling—Myrianthopoulos and Stevens

(*Continued from page 258*)

added another dimension to clinical science and preventive medicine. A Center offering such counseling without charge has been organized to serve the Washington, D.C. area. Its plan and purpose have been described.

BIBLIOGRAPHY

1. Stevens, H., and Dekaban, A.: Progressive cerebral degenerations in childhood. Neurology, 1958, **8,** 677.

Headache in Children—Blumenthal and Fuchs

(*Continued from page 272*)

BIBLIOGRAPHY

1. Vahlquist, B., and Hackzell, G.: Acta paediat., 1949, **38,** 622.
2. Millichap, J. G., Lombroso, C. T., and Lennox, W. G.: Pediatrics, 1955, **15,** 705.
3. MacNeal, P. S., Alpers, B. J., and O'Brien, W. R.: Management of the Patient with Headache. Philadelphia: Lea, 1957.
4. Burke, E. C., and Peters, G. A.: A.M.A. J. Dis. Child., 1956, **92,** 330.
5. Friedman, A. P.: Tr. Am. Neurol. A., 1953 **78,** 101.
6. Friedman, A. P.: Neurology, 1954, **4,** 157.
7. Katz, J. (New York), Friedman, A. P., and Gisolfi, A.: New York J. Med., 1950, **50,** 2269.
8. Krupp, G. R., and Friedman, A. P.: A.M.A. Am. J. Dis. Child., 1953, **85,** 146.
9. Krupp, G. R., and Friedman, A. P.: New York J. Med., 1953, **53,** 43.
10. Vahlquist, B.: Internat. Arch. Allergy, 1955, **7,** 348.
11. Glaser, J.: A.M.A. Am. J. Dis. Child., 1954, **88,** 92.
12. Michael, M. I., and Williams, J. M.: J. Pediat., 1952, **41,** 18.
13. Wolff, H. G.: Headache and Other Head Pain. New York: Oxford, 1948.

The Flounder and I—Observer

(*Continued from page 286*)

efficiency and good judgment are put to the severest test. The Society has done few things in its history which have won wider approval from a public relations standpoint than the establishment of Medical Bureau.

T.W.

"In and Out of Focus" will not appear in the June, July and August issues of Medical Annals. It will be resumed with the September issue.

Book Reviews

Clinical Obstetrics and Gynecology. A Quarterly Book Series. Vol. 1, No. 3. Symposium on Special Diagnostic Aids, edited by C. PAUL HODGKINSON, M.D. Symposium on Abnormal Uterine Bleeding, edited by JOHN I. BREWER, M.D. Price, $18.00 subscription for 4 consecutive numbers. Pp. 545–852. New York: Hoeber-Harper, September 1958.

The third issue of "Clinical Obstetrics and Gynecology" is, like the first 2 numbers, a summary of the latest thoughts of many experts on the 2 subjects in the title. This work, like the previous ones, is beamed to give the busy clinician a comprehensive review of the subject and should not be used as a detailed source of information. I shall attempt only to comment briefly on each of the various chapters.

Uterine Cancer by Dr. Gusberg: Clear exposition accompanied by good diagrams and illustrations.

Exfoliative Cytology by Dr. W. K. Cuyler et al.: Gives proper interest on using in the early age group.

Diagnostic Value of Peritoneal Washings by Dr. Keetel: Honest evaluation of this subject.

Culdoscopy by Dr. Decker: Nice outline of the subject but we wonder why he made no reference to Colonel Riva's excellent work.

The Gynogram by Dr. Gould: Interestingly presented.

Hysterosalpingography by Dr. Williams: Accompanied by an interesting set of illustrations.

X-ray Evaluation of Pelvic Dystocia by Dr. Davis and Dr. Hunt: Well presented.

Placentography by Dr. Novell: Presented a bit too simply for the average clinician doing obstetrics.

The Determination of Fetal Sex by Dr. Pratt: Gives a method of explaining "the universal question" to the average patient.

Urethrocystograms by Dr. Hodgkinson and Cystometry by Dr. Mitchell: Well worth careful study by the average clinician.

Crystallization-Cellularity Phenomenon of Cervical Mucus by Dr. Urdan: Nicely explains the simple laboratory tests which could be of inestimable value in every-day gynecologic practice.

Value of the Papanicolaou Smear and Biopsy as Diagnostic Aids in Pregnancy by Dr. Ben Peckham: Very interesting.

Rh Problem by Dr. McCall: Remarkably concise and to the point.

Diagnosis of Hypofibrinogenemia by Dr. Reed: Good.

Laboratory Diagnosis in Toxemia of Pregnancy by Dr. Willson: Excellent summary and conclusion.

The second section of the book related to Uterine Bleeding seemed to me to be excellent; it would be well if the average busy gynecologist had this for required reading about every 6 months. Most of it is routine but details are mentioned which all of us inadvertently may omit from time to time.

Dr. Abel's chapter is outstanding. I should like to take issue with Dr. Schauffler in his paragraph on Erosion of the Cervix of a Small Child. His pages on the Management of Uterine Bleeding are excellent.

I was glad to note that Dr. Brewer states in his chapter on Fibroid Uteri that he is "removing these abnormal uteri more promptly than we did previously" in women bleeding at the climacteric.

Dr. Tommy N. Evans' chapter on Postmenopausal Bleeding gives an excellent definition of this subject. His emphasis that there is no contraindication to pelvic examination during a menstrual period is well taken.

Dr. Willard M. Allen in his final chapter on Functional Uterine Bleeding presents a very interesting series of charts.

ALBERT S. BRIGHT, M.D.

Fracture Surgery. A Textbook of Common Fractures. HENRY MILCH, M.D., AND ROBERT AUSTIN MILCH, M.D., with a chapter on anesthesia by Herbert D. Dubovsky, M.D. Price, $17.50. Pp. 470, with 671 illustrations. New York: Hoeber-Harper, 1959.

This is a practical textbook designed to be used by the resident staff of a hospital, or by the physician who deals only occasionally with fractures. The book is well arranged, the body divided into sections, and fractures of given regions considered in sequence. This makes it a very convenient, quick-reference work.

Undue sanction is accorded the use of the fluoroscope in closed manipulation of fractures, most surgeons feeling that it is far safer to manipulate the fracture and get a film rather than to risk unnecessary exposure of the surgeon's hands to radiation. Neither is the book's consideration of Bryant's traction in complete agreement with recent studies concerning circulatory embarrassment. Insufficient emphasis is placed on the necessity for avoidance of hyperextension of the knees.

Justifiable emphasis is placed on circulatory complications in fractures about the elbow in children. The illustration of a double plate on the humerus, page 214, is not in accord with the best available practice for nonunion in the humerus.

The usual textbook remarks are made concerning Osgood-Schlatter's disease, the advice being given that drilling and screwing should be avoided, the patient being instructed to limit his activities in those cases where a plaster cast fails to relieve the symptoms. It is the reviewer's opinion that such advice is not the best for adolescent boys, who, even in resistant cases, can be re-

Book Reviews (*Continued*)

turned to unlimited physical activity within a short time after drilling or screwing of the tubercle.

The authors advocate the use of braces in slipping of the upper femoral epiphysis, even though such treatment may require several years. The generally accepted procedure involves the use of threaded pins early in the disease, before there has been appreciable displacement of the epiphysis, thus permitting early return to normal activities, even before the epiphysis is united.

The chapter on spinal injuries is well and succinctly presented, as is the chapter on regional anesthesia by Herbert Dubovsky. The chapter on compound injuries is excellent.

The work is not intended to be encyclopedic in nature, and it is natural and proper that, in a book which is planned to appeal to residents and those who handle fractures only occasionally, the selection of procedures should be limited. Complicated cases should be handled by someone with more knowledge than can be derived from this text.

In spite of the limitations which have been noted, it is the opinion of the reviewer that the chapters on regional anesthesia, the spine, and compound injuries make the book well worth the price. Anyone who reads it from cover to cover will inevitably be improved by such reading.

Allen S. Lloyd, M.D.

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1. Hodges, F.T.: GP 14:86, Nov., 1956.

MEDICAL ANNALS
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THE OFFICE MANAGEMENT OF PSYCHIATRIC PROBLEMS*

Psychiatry in the Physician's Office

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THE MAJOR PART of psychiatric work is, or could be, done by physicians who are not specialists in psychiatry. Indeed, it must be done by them, if it is to be done at all. Consider the figures. Approximately 650,000 persons are patients in the Nation's mental hospitals. For each 1 inside there are probably 10 outside who are just as sick. Whether they also should be hospitalized is another question. Many commitments, perhaps a third, could be avoided if more physicians were prepared to offer suitable ambulatory care.

Moving out in a widening circle, we come to those for whom psychiatric assistance on an outpatient basis is definitely indicated. They are about 50 times as numerous as the hospitalized group and are estimated at 32,500,000.

To attend the psychiatric needs of all these millions, constituting more than a sixth of the population, we have in this country, to begin with, 18,000 practicing psychiatrists. That amounts to 1 psychiatrist for 1,800 potential patients. Each of these specialists, if he followed conventional methods of long-term therapy, could devote 3 hours a week to a maximum of 18 patients, or 1 per cent of his waiting list. Ninety-nine per cent would go untreated.

Are we prepared to train 100 times the present number of psychiatrists? The question answers itself when we realize that it will require considerable expansion of educational resources merely to maintain the present ratio and keep abreast of the explosive growth in population. Social and economic factors likewise enter the picture. Perhaps what this country needs is a good 5-dollar psychiatrist, or, speaking more exactly, what it needs is more physicians with simple psychiatric knowledge and skill. Certainly, if anyone is going to meet a substantial part of this immense need, it is the 225,000 nonpsychiatric physicians who are already ministering to the health of the American people.

It is well to remember that every doctor is practicing psychiatry every day whether he calls it that or not. Nearly half his practice is devoted to functional nervous disorders, while much of what remains represents a combination of organic and functional disturbances. The physician who always remembers these facts has started to practice psychiatry, inasmuch as he is not only interested in symptoms and diseases but in the circumstances of a person's life as they contribute to all his illnesses.

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* Delivered, November 26, 1958, in Washington, D.C., during the 27th ANNUAL SCIENTIFIC ASSEMBLY of the Medical Society of the District of Columbia.

So the question facing the doctor is not whether to use psychiatry, but whether he is to be satisfied with playing hunches or to learn and apply sound principles of psychiatric management.

Psychiatrists have definite but not necessarily identical ideas regarding therapeutic procedures. Unnecessary psychiatric maneuvers and jargon are not to my taste. Most people need straightforward psychiatric guidance from commonsense physicians. And this is what I am going to try to do.

The questions I shall try to answer are these: Which emotional disturbances can a general practitioner treat with good prospects of success, and which should be referred to a specialist in psychiatry? How is a psychiatrically oriented medical history taken? What are the basic factors in psychotherapy? How is skill in brief psychotherapy acquired? The suggestions that follow are a condensation of years of office experience. For whatever may seem obvious or oversimplified, I make no apology. A few important principles must be stressed and used constantly. Let me begin with 3 of these.

Put patient at ease. I sympathize with you sitting here listening to a lecture and suggest you relax and take it easy. This is the first principle in office psychiatric work. Put the patient at ease and make him confortable by surrounding him with an atmosphere of understanding and sympathy, without undue affability or overweighted reassurance. The patient needs a quiet, relaxed, unhurried, confident physician who listens to him and whose few, penetrating, kind questions tell him he has found the haven of a physician's understanding. To put it simply, the patient must be made to feel at home and at ease with you.

Establish rapport. The second principle is good rapprot. This the doctor has to induce by repeatedly offering a warm, sincere and supporting friendship. Medical rapport is the all-important emotional link between patient and doctor; one senses that it flows and ebbs between 2 people, for it is by no means constant. It is an unspoken communication between 2 spirits, the bond of the seeking weakness of sickness with the limitless, supporting strength of the doctor. Frequently the patient has lost faith in himself; rapport is the bridge which supports him as he crosses the rivers of fear and uncertainty. The core of rapport is unselfish love on the doctor's part, and he must always keep it as such, never allowing it to degenerate to the level of personal attraction or immature affection.

Allow enough time. The third important factor in the office practice of psychiatry is time. One cannot always schedule psychotherapy. A job may take a few minutes or a few hours, and most frequently the latter. Sometimes one must sit and wrestle with a problem and a patient - see a task through whether it requires 1 hour or 3. When a patient needs more psychiatric time than is available for usual office consultation, and your waiting room is filled, reassure the patient, say he needs more time, and arrange an hour for him to return and talk with you. And make it within the next 24 hours, because deferred psychiatry is poor psychotherapy.

A few physicians set aside the hours from 5:00 to 7:00 p.m., in half-hourly and hourly appointments, for personal psychotherapeutic talks with patients. Try this 1 day a week to begin with, and I am willing to wager it will be the most rewarding day in your week. Some physicians have built a national reputation by combining psychotherapy with internal medicine.

The office practice of psychiatric first-aid is time-consuming, and when a physician gives considerable additional time for psychotherapy he should make an appropriate charge, as he would for spending an hour diagnosing and correcting a fracture. Most patients are grateful for sympathetic attention and will gladly pay.

Criteria for referral. The non-psychiatric physician has an enviable opportunity to practice preventive medicine by diagnosing and treating psychoneuroses before they are full-blown. For him the psychiatry of choice is plain, commonsense psychotherapy without the frills of unproven psychiatric theories or the ruffles of his own personal psychology. He will bear in mind that sexual factors are not universally the cause of emotional illness and that childhood influences are not altogether to blame. Most conflicts are not in the unconscious but are as obvious as the nose on your face. Generally they are due to fear, anger, ignorance, and inefficiency.

The doctor who adheres closely to intensive, simple psychotherapy need not complicate his and the patient's life by discussion of complex dynamic factors. The dynamics of emotional illness should and will interest the physician, but he had best leave the disinterring and treating of these factors to the experienced psychiatrist. I apologize for this warning since it is unnecessary for most wise men, but there are those who cannot resist being amateur sleuths.

Most doctors are prepared, or can fit themselves, to administer psychiatric first aid in the treatment of the following emotional problems:

1. Acute and chronic psychoneurotic reactions
2. Anxiety states
3. Panics
4. Phobic reactions
5. Mild reactive depressions
6. Mild senile and pre-senile states
7. Fresh psychosomatic symptoms
8. Fatigue states
9. Psychosocial problems:
    a. Marital maladaptations
    b. Occupational difficulties
    c. Social maladaptation
    d. Antisocial conduct
    e. Parent-child maladjustments
    f. Financial problems
    g. Outbreaks of anger
    h. Sour attitudes
    i. Grief reactions
    j. Destruction of protective myths

The experienced physician recognizes and separates the foregoing conditions from the psychoses, deep depressions, desperate and potentially suicidal reactions, the paranoid state, the sociopathic states, delusions and hallucinations, and severe alcoholism. These latter problems cannot be treated successfully by the general practitioner in his office and should be referred to a psychiatrist for prompt attention.

Make it clear whether a referral is for diagnosis or treatment, or both. Much of the follow-up after-care of patients who are referred to a psychiatrist should be carried out by the family doctor, provided he is willing to do it. Psychiatrists are frequently accused of appropriating patients (and some do). This, in my opinion, is bad for the patient, since the family doctor carries the continuing responsibility and is the important medical factor in the lives of all people. Please remember, however, that the psychiatric patient is likely to project his outrage with himself to the doctor who previously cared for him. In one-third of referrals the conscientious consulting psychiatrist has trouble in returning the patient to his own doctor, but send him back he should for the patient's own good.

In passing, a word of warning about the mood-affecting drugs and the drastic therapies. Certainly before pharmacologic and physiologic measures are employed, an emotionally disturbed patient should be studied and evaluated by an able psychiatrist. Today too many people are having their symptoms masked by too many drugs. Never before have so many people received so much unnecessary quieting, stimulating, and harmful psychiatric medication. As a result, people in the United States are in danger of becoming psychiatric zombies. Before we give these drugs or employ electroshock, let us first find out what is causing a patient's illness and try to remedy his condition permanently. The hope of mankind is to learn to use intelligence daily and to be willing to suffer so that necessary personal and social growth may take place. Drugs are not the answer to the psychiatric problems which come to the doctor's office. The best and most dependable answer medicine offers is psychotherapy.

THE PSYCHIATRICALLY-ORIENTED HISTORY

Good management begins with good history-taking. Certain facts are essential for even the simplest psychotherapy and are a desirable part of all medical histories. If doctors included a psychiatrically-oriented history in their investigation, there would be fewer psychiatrists, fewer medical errors, and fewer chronic psychoneurotics.

As a minimum, the following facts are needed:

FOREGROUND

1. The chief complaints
2. A concise description of present illness: date of onset, development of illness, relationship of relevant emotional strains
3. What is or was the relevant emotional strain in the patient's life?
4. What treatment has he received? With what result?
5. What is his interpretation of his difficulties?
6. What does he want to accomplish with the doctor?

(The two of us are working together—for what?)

(What do you really want?)

BACKGROUND

1. Family background
2. Life history of patient (have him write it out)
3. Educational and occupational history
4. Libidinous history (including marriage and sex habits)

PHYSICAL STATUS

1. Daily habits
2. Physical condition
3. Previous illnesses and reaction to illnesses in general

EMOTIONAL LIFE

1. Known conflicts
2. Patient's purpose in life
3. Degree of maturity

(Do you evade necessary discomfort?)

(Do you pursue injurious and unnecessary comfort?)

4. Degree of ability to recognize and meet reality

(Special history forms indicating in detail the technic of taking a psychiatrically-oriented history are available to physicians on request.)

A complete history cannot be taken in 1 sitting but may be accomplished in 4 1-hour interviews by combining history-taking and treatment. For example, in the first interview take the history of the present illness, put the patient on a schedule, and if necessary prescribe a small amount of medicine which you discontinue shortly. See the patient at daily intervals for 4 or 5 interviews, complete the history, and get the treatment under way. By that time there is probably no longer need for medicine. Then see the patient for 1 hour twice a week for 4 weeks, followed by 1 hour a week for a few subsequent weeks.

As the patient improves, he will have a healthy tendency to discontinue treatment. Let him do it. Do not try to work miraculous cures in an office practice. Patch the patient up, do a retuning job on him, get him to discover and use his assets, and above all do not fix his attention on his faults. Overtreating a patient is sometimes a fault of general practitioners and psychiatrists alike. A human being is a wonderful and imperfect mechanism at best. Doctors do not make people over; they help them be satisfied with, and use, what they have.

BASIC FACTORS IN PSYCHOTHERAPY

Psychotherapy in the office practice of non-psychiatrists must of necessity be limited to simple, basic procedures.

Ventilation. One of these is ventilation. Its purpose is to encourage the patient to talk, to drain off and act out repressed material. The emotionally disturbed patient needs to be listened to; he believes he has something to say. Many a family is broken up because a husband or wife is unwilling to listen, and someone comes along who will. Everyone is lonely and wants the impossible, namely, to be understood. So encourage the patient to talk, create a vacuum by keeping quiet, and then guide the conversation in a restorative direction.

Bear in mind that some people, feeling they are expected to have a significant story, will manufacture imagined material and talk themselves into worse illness. Others talk to keep from telling their real story. Ventilating and acting out can in themselves become a psychiatrically-encouraged disorder and a means of avoiding facing facts. Therefore, in many instances the amount of ventilating may finally need to be curtailed.

Suggestion. Suggestion is a unique psychologic phenomenon. It is the acceptance of statements, occurrences, and actions without submitting them to the critical faculty. Something which never existed before becomes in an instant a part of one's self. Most psychoneurotic symptoms are caused by suggestion and can be relieved by suggestion. There are 2 types of suggestion, direct and indirect, and both are useful. You employ suggestion constantly. Remember, patients likewise employ suggestion and may influence you.

Some people are counter-suggestible. When you realize this is happening, be patient. It is an automatic defensive mechanism and, with good rapport, will disappear.

Suggestion is a doctor's most important psychotherapeutic instrument. Study the phenomenon of suggestion. Learn what helps and what harms most people. Use good suggestion repetitively, freely, in large doses, at all times, to all people. The more intelligent people are, the more suggestible they be.

Persuasion. Persuasion is helping people adopt a way of life conducive to their welfare. We all do this daily. Many people, regardless of what they say, do not want to go to the trouble to live wisely. They even try to frighten the doctor off by their words, manner, and actions so that they may continue in their erroneous ways. This defensive technic gives rise to "resistance." A good physician does not "scare easily." He decides upon a minimum of wise conduct for the patient, insists on it, does not harmfully compromise, does not accept a neurosis as a medical consultant, and persuades a patient to do what is necessary. He sticks to his purpose with bulldog tenacity until the patient does it.

A good doctor must be skillful in helping a patient to a truthful "rationalization" of his difficulties. Since there are many angles of the truth, an appealing one can be found to relieve a patient of an unnecessary burden and point to an acceptable way of life. The best psychotherapists are experts in truthful rationalization. By this is meant finding a strong acceptable emotion to cement truth to a patient's mind.

Support. The emotionally disturbed patient must be given support until he regains confidence. This may be compared to the technic of the ice-skating teacher who does not actually hold the pupil up, but holds out his hand, ready to catch him, while making him maintain his own balance. This "you can do it" form of support leads to independence, not to dependence. Such support and reiterated reassurance hold him steady in times of stress and prevent him from sinking deeper into emotional quicksands.

Personality asset activation. People get well and stay well because they find and use their assets. They do not recover by having their faults corrected. This only fixes their attention on their shortcomings and makes them worse.

A good psychotherapist knows that every person has many assets in personality, environment, experience, and opportunity. These he searches out and activates. Good psychotherapy often consists in teaching a patient to accept inevitable difficulties so that he may accept the best of his opportunities.

Organizing and scheduling patient's daily life. It is necessary for most people to spend their time and energy wisely. Most people (including doctors) live an unbalanced life in terms of work, rest, exercise, and play. One of the first therapeutic items in the office treatment of all psychiatric patients is to prescribe in writing a simple daily schedule and insist that they schedule their daily lives.

The physician must frequently work with the patient's way of life. On occasion he must correct unfavorable environmental factors by consulting with the patient's family and associates.

Intellectual stimulation. The emotionally disturbed patient is meeting life on an instinctive, primitive level, which produces and continues a state of ill health. A majority of adults adjust to life emotionally, avoiding the fatiguing effort of intellectual activity. Considering the remarkable endowment of Homo sapiens, most people use scarcely half their intellectual potential. Intelligence must be reactivated and stimulated in the psychoneurotic patient, permitting objectivity to replace subjectivity.

An important part of psychotherapy is to prescribe worthwhile reading and studying, new experiences, together with a search for new interests and hobbies. One must teach the patient to use his sensitiveness externally in gaining and employing new knowledge rather than internally to magnify symptoms and increase his suffering and isolation.

Teaching spiritual values. In the distant past, religion and medicine were closely associated. Medicine was practiced in the temples, and physicians taught and exemplified love, kindness, generosity, forgiveness, tolerance, patience, and unselfishness. And so it must be today. A doctor must help confused, suffering humanity to find sustaining, encouraging, inspiring principles to live for and by. Spiritual strength is the only treasure man accumulates and keeps, and sick indeed is the person without it. As a part of office psychotherapy, the doctor shares his spiritual strength unashamedly with others, realizing that patients are frequently seeking spiritual force as much as medicine. Spiritual forces help man rise above destructive, primitive drives and give direction to his intelligence, because the will power all men seek is surely intelligence combined with an ideal.

Follow-up. While a few prolonged office visits directed along psychiatric lines are often most rewarding, usually patients must be followed up, not intensively perhaps, but systematically. One of the best ways is to make friendly, informal telephone calls in the evening, inquire how they are and what they are doing, check on their daily schedule, and reinforce suggestions already made.

Follow-up is an important part of the office practice of psychiatry. Some doctors fear it may indicate a desire to hang on to the patient, but the latter never feels that way. Follow-up is as necessary as taking the stitches out of an incision. But do not let your psychiatric patients lean too heavily; insist that when they see you again they buy their way into your office by using the advice you have prescribed.

REËDUCATION AND REINTEGRATION

Physicians practice office psychotherapy in many ways, some good and some not so good. The ones who take pride in saying that they have devised their own brand of psychiatric treatment have usually developed an amateurish and incomplete approach.

The name given to the effective form of brief psychotherapy discussed in this talk is reëducation. It is scientific, dependable, and appealing; it has been developed over the past 40 years and employed with some 20,000 patients. Being experienced in such a definite technic is an advantage to the physician in the office practice of psychiatry. In the absence of a technic like that of reëducation, the patient often feels that nothing is accomplished. This is not true when the doctor and the patient employ reëducation.

Reëducation is a set of principles, technics, and answers which gives the patient a framework for adjusting his present difficulties and avoiding serious and prolonged emotional handicaps in the future. It supplies knowledge, reduces fear and guilt, helps resolve emotional conflicts, and teaches better technics of living. The reëducational approach puts sex in proper perspective—good when it is part of a good life, and seldom per se a cause of illness. It teaches that anger and fear are the most destructive forces in life, and that the only antidote for them is love—something most people know very little about.

Reëducation has escaped the attention it deserves because it is so logical and sensible that it does not arouse curiosity as do the bizarre and unknown. It is so generally useful that it should be taught in all medical schools.

The need for skilled, psychiatrically-oriented physicians is so obvious and so great that there is a growing demand within the medical profession for training opportunities in brief psychotherapy. It is expected that by next summer short courses in reëducation will be available for a limited number of physicians at the Silver Hill Foundation, and, upon request, at other places in the United States.

LAGNIAPPE

Lagniappe is a Creole term that has currency in New Orleans. It means something extra, not expected, and probably not worth much. Therefore, these few obvious suggestions:

1. Be on time for your psychotherapeutic appointments. Do not get behind on your own schedule; if you do you will never catch up and, worse still, both you and the patient will feel hurried.

2. Give the patient your undivided attention. Don't look out the window; don't answer the telephone.

3. Do not use personal examples to explain what the patient should do. Never, never, never do this.

4. Word your statements carefully; plan what you are going to say and how. Do not be ambiguous; make your words count. We should listen back to the dreadful things we say.

5. Make one important point in each interview and keep hammering at it.

6. See to it that the patient always leaves your office comforted and feeling genuinely helped.

7. Be familiar with the usual triggering problems in emotional difficulty. As the patient talks, ask yourself what he is not telling you. Few patients ever tell you all their story—and this you must guess, correctly.

8. Plan your course of treatment for each individual patient. Study the record and plan the treatment. Let there be no hit-or-miss psychotherapy.

SUMMATION

All physicians are constantly practicing psychiatry; the science originated with them. Doctors, of all people, must be many-sided, being neither totally organically nor psychiatrically oriented. They must recognize that all patients need emotional assistance and then administer psychiatric first aid.

The physician needs to know and use the fundamentals of psychodynamics; to ask himself, "Why is this patient this way?"; to be slow to give a purely organic answer (such as menopause), and to be even slower to use the much overadvertised psychiatric drugs.

Every doctor should have at his fingertips:

The psychiatrically-oriented history
The basic psychodynamics of human motivation
The clinical picture of most common emotional disturbances and psychotic reactions
Skill in using the simple fundamentals of psychotherapy
The fundamental technics of reëducation.

(Continued on page 361)

A MENTAL HEALTH PLAN FOR GENERAL PRACTITIONERS*

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UNTIL the very recent present we psychiatrists were unable to report very much success in our work with psychiatric patients. As a matter of fact, spontaneous recoveries used to be as frequent as those cases in which the patient appeared to recover as a result of our intervention, strongly suggesting that our influence played little part in the eventual recovery. To a large degree the discouraging statistics of the past were the result of the fact that psychiatrists devoted themselves almost exclusively to the very difficult cases found in mental institutions. Today we are beginning to realize that by the time a patient has reached the point of commitment to an institution he has so exhausted his resources for recovery that it becomes almost a hopeless task to even try to rehabilitate him.

However, as a result of our experiences in World War II and the experiences during the past 10 to 15 years by psychiatrists working outside of institutions, we are beginning to find that a great deal can be done for our patients if we can see them early enough. As a matter of fact, it seems reasonable to predict that with an enlightened psychotherapeutic approach just about every patient can be helped if he is willing to come for treatment. Conversely, we need to be pessimistic only about those people who are not prepared to come for help.

A comparative study of our institutional experiences of the past and our outpatient experience of today suggests that we might have to look upon the institutionalized cases as the pathologic specimens of psychiatry, the end-results of previous failures to get effective therapy. As such, they will show the most complicated and the most deteriorated types of pictures, teaching us mostly what the end-results of a lifetime of psychiatric misfortune lead to, and teaching us very little else. Such comparative appraisals should stimulate us all to direct our attention to the all-important task of prevention, and to spend less of our efforts in pathologic studies. In psychiatry, however, prevention cannot be regarded as an all-or-none proposition but needs to be looked upon in relative terms, if we accept the thesis that psychiatric problems are produced as a result of a series of life experiences rather than as a kind of disease which might infect a previously healthy person. This point of view sees psychoneurosis, schizophrenia or any of the other functional psychiatric disorders as developing through various stages from mild to more serious, wherein correct intervention might reverse this development, preventing the appearance of the more serious, later stages.

It seems reasonable to estimate that at least 90 per cent of all psychiatric problems which receive medical attention are handled in the offices of the family physician. The psychiatric specialist sees only some of those patients whom the general practitioner fails to help. Various studies have shown that one-third of all patients seen by the nonpsychiatric physician are purely psychiatric, and another third are partly psy-

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chiatric. This means that about 5,000,000 patients a year coming to the attention of American physicians are presenting psychiatric problems, and another 5,000,000 are presenting themselves for medical care for mixed psychiatric and somatic problems. Our 10,000 psychiatrists, on the other hand, see and treat somewhat under a million new patients a year. These figures indicate that the nonpsychiatric physician is deeply involved in the business of mental health care whether he wants to be or not. We psychiatrists sometimes take a dim view of the general practitioner's competence in handling those psychiatric problems which come to his attention, but when we realize that his failures are only 10 per cent of the total, his results do not look too bad.

LEVELS OF PREVENTING PSYCHIATRIC PROBLEMS

We might attempt, here, to define what the most appropriate role of the general practitioner could be in the total mental health resources of our country, and what might be the most effective role of the psychiatrist. We propose that, in general, the family physician, the internist and the pediatrician see their function as being primarily a preventive one, and the psychiatrist's a corrective one. Such an allocation of responsibility would in no way minimize the importance of the nonpsychiatrist, since the field of prevention is probably the more important so far as public welfare is concerned. In addition, however, there will be many instances in which the unavailability of psychiatrists will make it necessary for the family physician to assume a corrective as well as a preventive function.

Assuming, for the moment, that this division of responsibility is acceptable and appropriate, let us now examine what preventive psychiatry consists of. Being a relative, rather than an absolute, term, we might list the various possible levels of prevention:

1. In the first place, we can conceive a level of prevention at which individuals are prevented from ever having any kind of emotional problems during their lifetime. This level of prevention would consist largely of helping parents, schools and the community to learn the most effective ways of raising children to become well-adjusted, responsible adults. Since the family physician sees parents and children at frequent intervals during the growing-up process, he is in a unique position to add his influence toward helping it become a success.

2. The next level of prevention would be, again, in childhood where certain danger signals have already made their appearance. We know that the adults who experience serious psychiatric problems have demonstrated warning signs during their childhood which might have been recognized as cues for taking preventive measures. These signs are frequently brought to the attention of the physician as children with enuresis, temper tantrums, nightmares, specific learning problems, unusual fears, rebelliousness, etc. Again, it will be the family physician who is most likely to recognize these signs, and he is the one whose influence can be best brought to bear to modify them.

3. The next level of prevention would be possible during adolescence and early adulthood when patients who are already clear-cut neurotics face important decisions in their lives in respect to careers, schooling, marriage, health, etc. Since these people think neurotically, they are likely to make irrational decisions which can have devastating effects on their future lives. When the family physician sees these people at these critical moments of their lives, he is in a very favorable position to help them make more rational decisions which could prevent serious trouble later on.

4. Another level of prevention would be feasible with people who have been full-fledged psychiatric problems for some time and have already experienced considerable difficulty in their lives. With these people we can appropriately think of two possible types of management, one being that of taking corrective

measures with the aim in mind of reversing the previous trend. This approach will generally require the services of an experienced psychiatrist. The other possible approach would be to work toward the prevention of additional complications, and the family physician can be most helpful here. The types of unfortunate complications which might be prevented are prolonged institutionalization, drug or alcohol addiction, unnecessary operations, and preoccupation with health matters, divorce, invalidism, suicide, etc. Ideally, the family physician would work together with a psychiatrist along these two possible lines.

5. The last level of prevention, and the most difficult, of course, would be the sort possible with patients whose lives have already been bankrupt but who could possibly be salvaged for a productive future. These would be the people who have already been institutionalized or firmly entrenched in invalidism, alcoholism, or other types of helplessness. The tragedy to be prevented in these cases would be that of a total lifetime of uselessness and dependency on others. It is necessary that psychiatrists play a major role in the rehabilitation of these patients, but there is also much that the family physician can do, especially in helping to mobilize support from the family and community.

It is only fair to mention here that this discussion of the different levels of preventive mental hygiene is based on a theoretical approach to the study of human behavior which is not in universal acceptance. We psychiatrists have produced a great deal of confusion by having developed many divergent theories. In general, the various theories can be divided into two groups. One group consists of an organic approach, which seeks to explain human behavior on a biochemical basis. Within the framework of these theories no preventive measures are possible until the alleged biochemical dysfunction becomes isolated. The other set of theories sees human behavior as being a product of life experiences with the individual reacting in more or less effective ways with the social forces surrounding him. Within the framework of these theories preventive measures can be derived from the assumption that the introduction of new learning makes possible a new type of living and therefore new kinds of results from living. The discussion presented here follows this latter type of theory and is quite distinct from the organic theories. Although our medical training tends to give us physicians an organic bias, and the general practitioner is likely to feel most comfortable with organic explanations and remedies, his own living experiences are not likely to be interpreted by him along these lines. Therefore, his own personal life experiences will serve better than his medical school training in providing him with a reference point to carry out a psychiatric program with his patients.

Knowingly or unknowingly, and well or badly, all physicians perform the preventive mental hygiene functions outlined above. Sometimes, unfortunately, their efforts may cause more trouble than they prevent because of lack of information on the subject. Our medical training pays little attention to this aspect of the art of medical practice, and the physician generally has to acquire skill in the field on his own by a trial-and-error method. Rather than permit this essential part of our training as practicing physicians to remain as such a hit-and-miss affair, it would seem much more reasonable to incorporate a systematic training in mental hygiene principles in our postgraduate education. We hope, of course, that meanwhile our medical schools will do more than they have before to provide this training before graduation. As with any other medical specialty, skill is best acquired through a combination of guidance and experience. Also, as with any other major medical subject, it pays to make our training a continuous process.

Preventive versus Therapeutic Approach to Mental Health

At this point we might attempt to define what would constitute a preventive mental hygiene approach as distinguished from the psychiatrist's therapeutic approach. Above all, the job of the psychiatrist demands that he deal with patients' resistance to change. The skill of any psychiatrist is, to a large degree, measurable by his success in the detection of, and the handling of this resistance. This facility is, necessarily, acquired through his experience with large numbers of patients. This kind of skill is not the sort we can expect the general practitioner to acquire unless he too gets the same kind of experience, and this is not likely to happen to very many general practitioners. Certain other facets of psychiatric knowledge, however, can be acquired by the general practitioner within the relatively short period of time he is likely to devote to the subject. Certainly, the area of diagnosis is well within his capacity to master, especially if we regard the problem of diagnosis to be simply the question of distinguishing the normal, the neurotic, and the psychotic.

It also seems to be conceivable that the general practitioner can master, in a reasonably short period of time, some basic concepts of preventive psychiatry. These could be regarded as somewhat similar to the kind of basic health education we find it possible to teach people. In other words, it is proposed that preventive psychiatry be regarded as the teaching of a basic set of mental hygiene principles. To do this, of course, requires some knowledge of the person we are teaching, and, also, it requires the building up of the kind of relationship within the atmosphere of which teaching is most likely to be effective. It would not require, however, the deeper knowledge of, and skill in handling, complicated resistance.

The basic set of principles which might be taught by the physician to his patient would be those concepts and practices which we know make for a state of good mental health. Like other forms of teaching, the subject would be divisible into two distinct areas—content and method. The physician would, therefore, need to learn what (content) to teach the patient to do in his life in order to maintain or achieve a level of good mental health and he would need to learn something about how (method) to teach this. This material cannot be presented in the short space of this paper but could be acquired by the general practitioner through a few postgraduate courses or seminars.

It would be particularly important to emphasize that the teaching of basic mental health principles is something which is appropriate to offer all patients and not only those who already show evidence of psychiatric trouble. In the same way that general health education is recognized as a subject which needs to be offered to healthy people as well as the sick ones, preventive psychiatry must be directed to people before they get into trouble as well as afterwards. We can expect, of course, a certain amount of opposition from patients on this score, but this opposition is likely to disappear in time as the family physician acquires a reputation for taking responsibility for this function. For example, 50 years ago it was most difficult to get the public to pay much attention to learning the elements of good health practices. However, the concerted efforts of American physicians have succeeded in making people health-conscious, sometimes even excessively so. The same success could be achieved in preventive mental health, but only if the family physicians of our country were to support such a program.

RECOMMENDATIONS FOR TRAINING PROGRAM

What we have said so far is designed to lead up to some very definite and solid recommendations, addressed to you as individual physicians and to your organization. The recommendations are as follows:

1. That each physician take for himself the responsibility for becoming as familiar with the basic principles of psychiatry as he has with other medical specialties.
2. That he recognize the need for acquiring this familiarity through the process of postgraduate education in the subject.

(Continued on page 362)

MENTAL AND PERSONALITY CHANGES IN THE UREMIC SYNDROME*†

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UREMIA is herein defined as a symptom-complex or syndrome accompanying an accumulation in the body fluids of the end-products of metabolism whether through accelerated catabolism, decreased excretion, or both. Close and prolonged observation of several hundred patients in acute, subacute and chronic renal failure has convinced us that the usual medical concepts of "uremic coma" and "uremic psychosis" are too general to shed light on the broad range of neuropsychiatric manifestations produced by alterations in the chemical environment of the brain consequent on renal failure. A sharper focus is needed on the clinical details of the uremic syndrome. The procedure of external hemodialysis, by introducing a certain element of reversibility in the uremic process, can be used as an investigative tool to elucidate some features of the uremic syndrome in acute and chronic renal failure. Since the problems of human personality or even its underlying cerebral metabolism do not lend themselves to investigation in animals, it may be that such data on the uremic syndrome can be gathered in no other way than by clinical observation. In fact, in our laboratory, the behavior of dogs rendered uremic by ureteral ligation is unchanged up to the point of death. It is the purpose of the present paper to attempt a detailed description of neuropsychiatric changes in uremia, to report some pertinent observations made on dialyzed patients, and to comment on a few of the mechanisms which have been proffered to explain the pathogenesis of the uremic syndrome.[1]

THE UREMIC SYNDROME

An elevated blood urea can be put to too much use. It can be invoked to explain any evil which may develop in the course of the patient's disease, and the patient with renal disease is susceptible to a wide variety of situations which may affect his sensorium. A partial list of these is presented in table 1. This list should serve to emphasize both the difficulty and importance of recognizing what is not the uremic syndrome in azotemic patients. Most of these conditions, while deeply entwined in the older literature, can now be ruled in or out by positive criteria, the delineation of which will not be attempted here. With the exception of the removal of dialyzable drugs or the coincidental correction of anemia and tetany by supplying red blood cells and calcium, all of the conditions in table 1 have one thing in common. They are not helped by dialysis. We may then evolve a new and positive

TABLE 1

Clinical Situations Easily Confused with the Uremic Syndrome

1. Associated vascular disease
2. Toxemia of infection
3. Water intoxication
4. Associated hepatic coma
5. Impaired drug tolerance
6. Acute anxiety reaction or reactive depression
7. The associated anemia
8. Symptoms of tetany
9. Nutritional or vitamin deficiencies
10. Other medical and neurologic diseases

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definition of the uremic syndrome as a symptom-complex due to the accumulation of unknown toxic substances which appear to be dialyzable. Although this may be criticized as too arbitrary, it has been a useful concept for us and for others[2] who have faced the pitfalls of the differential diganosis between uremia and other conditions,[3, 4] for example, sepsis.

I shall attempt a composite description of the mental and personality changes in the uremic syndrome, illustrated by examples.

The most common initial complaints of the uremic patient are fatigue, apathy, drowsiness and inability to concentrate for long periods. (A boy was reported by his teacher for persistent napping in class; an architect fell asleep on the drawing board.) The concentration defect is always episodic. The patient can perform accurately and well in short spurts but cannot sustain activity. The deficiency can best be demonstrated clinically by demanding rapid performance of addition by 2's, 3's, or the 100 minus 7's test. The defect is quite different from the mental depression caused by soporific drugs. Muscle fatigue occurs after exercise. Postural muscles may weaken and the patient may show little resistance to his physician's advice on bed rest. Postural muscle weakness may uncover skeletal defects such as scoliosis, spina bifida or lumbar disc syndrome, and the patient may complain of heaviness in the back or hips or have frank arthritic complaints. He may seize the imagined location to report pain in his kidneys, but it is more often dull discomfort in the lower back. Cyclic variations occur both in the short spurts of good performance and in the overall feeling of well-being. (An engineer calculated a difficult mathematical assignment by working in 15-minute intervals but had whole days of ineffectiveness interspersed with his good days.) Mild headaches may recur but are less common in the absence of hypertension. Unlike hypertensive headaches, they are not occipital and frequently are vague in character and location.

With progression of the disease the patient's apathy extends to the visceral spheres. He becomes "picky" of appetite. Both sexual desires and performance begin to wane. Severe anorexia may hasten weight loss. The speech may become slow and slurred. The memory may become erratic and can interfere with treatment. The patient may actually forget he is ill or sincerely disavow previous directions from his physician. These small memory defects may broaden to complete amnesia. (A housewife who was tested at another hospital with pictures of the family could correctly name all members of the family, and could cite telephone numbers and household problems. After transfer to our hospital and dialysis, she became genuinely alert and had amnesia for the previous week. She was unaware of either the transfer or the dialysis. Another patient, chemically uremic, had an intelligent interest in the artificial kidney. After lapsing into a confused state, which included questions and conversation with doctors, he was dialyzed and, on awakening, experienced bitter disappointment at his failure to remember any details of the procedure.)

Concomitant with the depressive signs, the uremic patient may develop irritative phenomena. He feels restless and may think that he has to keep moving to relax. He becomes irritable toward his family and associates. While complaining of drowsiness by day, he has insomnia by night and responds atypically to sedatives. He may have fibrillary muscle twitchings, particularly of extensor muscle groups, and these may become gross muscle jerks or cramps which are particularly bothersome in the twilight zone just before going to sleep. (One patient was psychoanalyzed for several months to solve the symbolism of a muscle tic which took the form of a kicking movement at the knee. The tic worsened, and medical investigation revealed pyelonephritis with severe azotemia. Treatment of his uremic syndrome was followed by loss of the tic.) These twitches may be best observed in the resting patient who is unaware of the observation. They may take the form of doodling, picking at bed clothes, or other purposeless movements.

At this stage of uremia, the personality often becomes compulsive or the patient becomes somewhat paranoid in speech and dream content. (A woman who had a renal biopsy later in her course woke up screaming after a dream in which the doctor had pursued her with a butcher knife.) Compulsive behavior may lead the patient to insist on leaving the hospital suddenly by ambulance. Claustrophobia may be present one night and absent the next.

The precise form of a uremic psychosis is undoubtedly conditioned by previous personality, and every type from depression to a catatonic state may be seen.[5-7] I have observed a peculiar type of organic psychosis in the recovery phase of uremia which occurs as the blood urea nitrogen is rapidly falling. It is characterized by bizarre behavior, delusions, vivid color and sensory hallucinations, and muttering speech and is intensified by darkness or by leaving the patient alone or out of contact with his environment. It lasts 2 to 4 days and leaves no residual effects that one can determine.

In advanced uremia, many neurologic signs may be seen. Meningeal irritation has been reported. [8,9] Cerebellar signs of unsteadiness, change in gait, and nystagmus may be seen. Stupor progresses to semi-coma and coma. Slurred speech progresses to incoherency and mumbling. Muscle twitches progress to convulsions which may remain focal, show a Jacksonian progression, or be of the grand mal type. Transient monoplegia, hemiplegia, aphasia, apraxia, amaurosis, deafness and severe vertigo may be seen.[10] Kussmaul breathing progresses to Cheyne-Stokes respiration, and if death has not come by cardiac arrhythmia, hemorrhage or pulmonary edema, the patient will die in deep coma or following a convulsion.

RESULTS OF DIALYSIS

External hemodialysis has given the new dimension of reversibility to investigation of the uremic syndrome. Complete reversal of the mental and physical changes may occur. The rate of this reversal is independent of the dialysance of urea and indeed has been demonstrated to occur even when the patient is dialyzed against an isourea bath.[11] I have found the clearing interval to be quite variable. Data on a group of closely observed patients are presented in table 2. In general, awakening is more dramatic in acute cases and those which are least complicated by sepsis or tissue necrosis. The most rapid reversal in our series occurred in a patient with renal hyperchloremic acidosis as detailed in the following case history.

TABLE 2

Uremic Coma

Time Lag in Post-Dialysis Awakening

Case No.	Diagnosis	Days of Oliguria	Highest BUN	Highest Creatinine	Hours to Awaken
1*	ARI, CRI, RHA	—	190	15	0.2
2	ARI	3	100	30	2
3	ARI, CRI	3	184	21	2
4	ARI	6	178	24	3
5	ARI	10	290	21	4
1†	ARI, CRI	—	165	7	11
6	CRI	—	265	45	14
7	ARI	13	180	20	39
8	ARI, CRI	16	150	40	48
9	ARI	15	138	59	48

ARI—Acute renal insufficiency
CRI—Chronic renal insufficiency
RHA—Renal hyperchloremic acidosis
* Second dialysis
† First dialysis

Case 1. The patient is a 43-year-old white man who had a bilateral ureterosigmoid anastomosis at the age of 17 following a series of unsuccessful plastic procedures to repair damage to his urethra from an accident at the age of 10. During later years he had repeated bouts of pyelonephritis with hypertension and was known to have an elevated blood urea nitrogen at least 7 years prior to the present admission. Six years before he had had a bout of melena and azotemia. Five years ago he had an acute attack of pyelonephritis. The blood pressure was 175/90 and the blood urea nitrogen 39 mg. Two and a half years before he had been admitted to the hospital with a blood pressure of 250/150, grade III hypertensive fundi, cardiomegaly, hyperchloremia, azotemia with urea nitrogen of 70 mg., and from that time on he had been actively treated with alkalinizing agents and antihypertensive drugs, protein restriction, and controlled electrolyte intake and hydration. Despite almost continuous antibiotic therapy, he has had several acute exacerbations of pyelonephritis.

The patient was admitted to the hospital at this time, because of progressive congestive heart failure, increasing hypertension, and renal insufficiency. The ambulatory blood pressure, despite large doses of Apresoline and Serpasil, was 260/160. The blood pressure at bed rest was 220/120. There were grade II hypertensive fundi, dullness in the lower left portion of the chest, and diastolic gallop, with increasing confusion, fatigue, loss of memory and libido, anorexia and impotence. The admission hematocrit was 29, the blood urea nitrogen 85 mg. per 100 ml., the chlorides 100 mEq./l, K 3.5 mEq./l, and Na 132 mEq./l.

After a period of transient improvement, the patient developed a severe acute episode of pericarditis with chest pain and precordial friction rub. He also developed migrating pleural friction rubs and pleuropericardial friction rubs, together with massive pleural effusion and cardiac enlargement. This had certain features suggesting a lupoid syndrome from Apresoline, but the blood preparation for lupus cells was negative. There was progressive worsening of the patient's condition with severe tachypnea, dyspnea and orthopnea. The urine output was reduced, the nitrogen accumulation progressed at a more rapid rate, and the patient had rapidly developing confusion and disorientation. He was dialyzed on a disposable twin-coil kidney on the twenty-second hospital day. Pre- and post-dialysis chemical analyses were as follows:

First Dialysis

	Weight (lbs.)	BUN	Creatinine	Uric Acid	P	Na	K	Cl	CO_2
		mg./100 ml.				mEq./l.			
Pre-	134.5	140	7	5.4	2.7	131	4	103	17
Post-	130.5	76	4.8	3.4	2.1	146	3.4	108	21

The patient appeared to have marked clearing of his sensorium during the latter part of dialysis and immediately following. Six hours later he was completely alert and awake. He demonstrated the curious phenomenon we have repeatedly seen in uremic behavior. During dialysis he seemed to have lucid intervals during which he asked questions and recognized people. Nevertheless, in an interview 6 hours later he stated emphatically that he remembered nothing until a few moments before the interview. He did not remember being taken to the dialysis room or the anesthesia, which was a local brachial block, the surgery for the cannulation of artery and vein, the dialysis itself, or the return to his room. Six hours later he was quite clear, could state his room number accurately, and was well oriented as to persons and places. Following dialysis he had a bout of ileus, which was successfully treated with the use of Prostigmin. The urine output increased. A good clinical recovery followed, with discharge from the hospital on the thirty-seventh hospital day. Prior to discharge the blood urea nitrogen was 53, Na 134, and K 4.6.

The patient was readmitted 9 days later after a bout of hematemesis and 2 days of sudden confusion. The patient would sit upright in a rigid position for a prolonged period and responded to questions poorly, and his appearance suggested a catatonic state. Examination revealed a severe paralytic ileus with massive distention of the large bowel on abdominal X-ray examination. The patient had been anuric for 36 hours. Chemical examinaion at this time revealed a urea nitrogen of 130, K of 5.9, Na of 136, Cl of 118 and CO_2 of 10 mEq./l. A tube was placed in the stomach for drainage, a high rectal tube was inserted, and the patient was given Prostigmin, which produced a rush of dark fluid that was hematest-positive. He was also treated with intravenous alkali and responded with increasing urine flow and a dramatic clearing of his sensorium over a 2- to 3-day period. He was discharged 17 days later in good clinical condition with a urea nitrogen of 60, Na of 140, K of 5.4, and Cl of 110.

The patient was maintained in satisfactory condition on an ambulatory basis with recurrent transfusions for a period of 5 weeks. At the end of this time he had a sudden decrease in the urine volume from the range of 2,400 ml. per day to the range of 700 ml. per day. There was rapid change in his personality and deterioration in his mental acuity. Chemical tests now showed a urea nitrogen of 150, K of 4.2, Na of 126, and Cl of 98. The diastolic blood pressure showed a rapid rise into the range of 120 to 130. The blood pressure was 220/120 and the pulse rate was 100. The patient was pale, in moderate respiratory distress, and alert but only partially coöperative. There was marked venous distention at 70°. The fundi were grade II hypertension. There was a pleural friction rub in the right base anteriorly and posteriorly and moist rales in both places. There were a grade II systolic murmur, a loud pulmonic second sound, and a loud ventricular diastolic gallop. The liver was palpable at 3 cm. below the right costal margin. There was 1 plus sacral edema and 3 plus leg edema. The patient had gained approximately 8 lbs. Since the hematocrit was 19 he was given 2 units of packed cells. Twenty-four hours later he went from an alert state into complete clinical deterioration. He became totally unresponsive and appeared to be in a catatonic state; the diastolic blood pressure had risen to the range of 140. He was given intravenous Unitensen on the assumption that this might be a form of encephalopathy. There was satisfactory lowering of the blood pressure but no change in the mental status. The blood pressure fell without the use of any additional antihypertensive agents, and the comatose state appeared much deeper, with flaccidity, rotatory random movements of the eyeballs, and total unresponsivemess. The patient was transferred immediately to the Renal Laboratory and appeared to be in an agonal terminal state, gasping for breath and unresponsive to any stimuli. Cannulation was carried out without any local anesthesia and with no response to the skin incision. The neck veins were distended, and there were bubbling rales throughout the chest. Exactly 10 minutes after the cannulas were opened with the flow rate of approximately 300 c.c. per minute the patient's breathing improved, his eyes opened, he responded to stimuli, he recognized the people and surroundings, and he sat up in bed. He subsequently continued to improve mentally throughout the remainder of the dialysis. A psychiatric interview was tape-recorded, and although speech tended to be slow and slurred, he retained accurate memory for all the events of the dialysis. Chemical results were as follows:

Second Dialysis

	Weight (lbs.)	BUN	Creatinine	Uric Acid	P	Na	K	Cl	CO_2
		mg./100 ml.				mEq./l.			
Pre-	147	190	15	12.5	6	139	4.2	103	11.4
Post-	140	84	8.6	5.6	3.5	141	4.2	108	21.4

At the present writing, the patient is completely clear, mentally oriented as to time, place and persons, and can work out problems accurately. He had total amnesia for the 10-hour period when he appeared to be in clinical coma, and he remembers nothing prior and everything subsequent to the moment when he opened his eyes during dialysis. The short time-interval involved in the second awakening is unique and atypical for cases of uremia due to other causes. There was no time for significant dialysis of anything. There was time for an exchange transfusion with the machine; 1,000 ml. of fresh, oxygenated, warm, heparinized, dialyzed blood had been moved from the twin-coil kidney into the patient, and his brain cells therefore were being bathed by a different chemical environment. The rapid response argues in favor of a specific toxic agent in this patient with an effect on brain cells which is both direct and immediately reversible by removal or replacement with new blood. Ammonia may play a role in mental changes in patients with ureterosigmoid anastomoses.[12]

As illustrated by this case, both the lapse into coma and the emergence from it can be surprisingly abrupt if one uses memory as an objective test of higher consciousness. In some cases of uremia, however, the reversal can be quite delayed, as if there were a lag phase in cellular recovery or at least a lag in distribution of toxic agents. This is almost always true of the patients with chronic renal failure. We have observed patients who have abruptly cleared their sensorium as long as 6 to 8 days after dialysis at a time when their blood urea had reaccumulated to a concentration greater than that preceding dialysis. This lag phase, common to both the development and reversal of uremic stupor, is a most difficult phenomenon to explain to patients and family. We have made similar observations on other features of the uremic syndrome. A patient may develop rapidly soaring blood chemical figures but feel fine for a week or so before developing nausea and vomiting. Dialysis or diuresis may ensue with a chemical reversal, but the patient continues to improve as to symptoms while regressing chemically. An abortive pericardial friction rub may appear days after a diuresis or dialysis while the patient is rapidly improving. In a patient with prolonged oliguria the cycle may thus become: chemical uremia → lag phase → clinical uremia → chemical reversal → lag phase → clinical reversal.

These changes are best observed in the unusually prolonged cases of oliguria requiring repeated dialysis to maintain life. Such an opportunity was recently presented in a patient with crush syndrome who did not make a liter of urine per day until the thirty-fifth day following the onset of anuria. His clinical course through 6 dialyses is presented graphically in figure 1. Some idea of the magnitude and duration of this catabolic response can be seen in

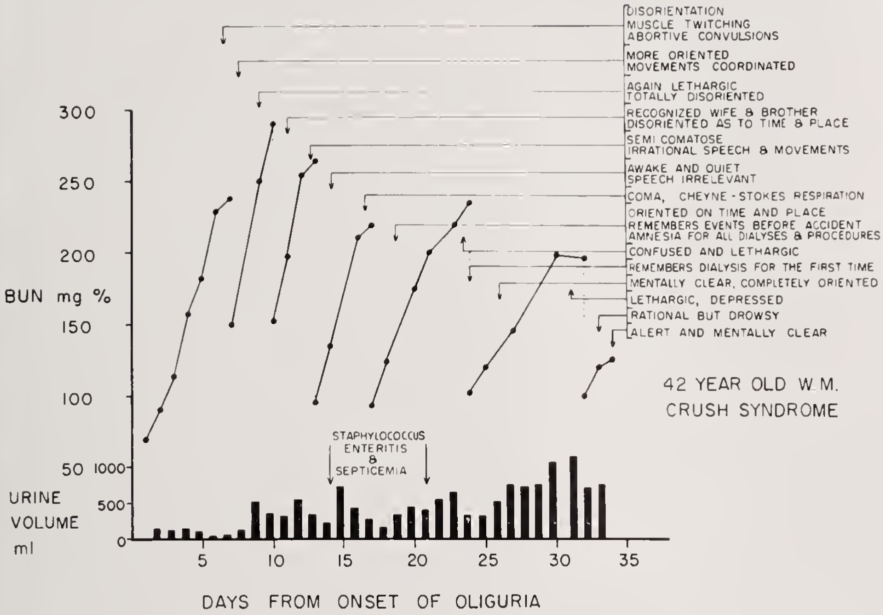

FIG. 1. Clinical course of a 42-year-old white man with crush syndrome from an automobile accident who survived more than 4 weeks of oliguria with the aid of 6 dialyses. Mental changes are noted on right. Patient made a complete recovery.

figure 2, where his urea increments are compared with a patient who did not become comatose during the course of an acute renal insufficiency.

Another interesting observation has been made during the diuretic state in patients with acute uremic syndromes. The patient appears to go through a period of striking hypermetabolism as illustrated by the following case.

Case 2. A 24-year-old gravida II, Para III white woman, in the sixth month of pregnancy, developed sudden high fever, nausea, vomiting and diarrhea and was diagnosed as having a "virus infection." This precipitated labor, and 3 days later twins were stillborn. The urine showed albumin, and the patient was treated with sulfonamide drugs (Gantrisin and Thiosulfil). She became mentally confused and anuric and continued oliguric for 13 days, during which she had progressive clinical deterioration. On the fourteenth day she voided 1,200 ml. of urine but became deeply comatose with relative hypotension (108–130/40–50) and stertorous, Kussmaul respiration and was transferred to Georgetown University Hospital. She showed rotary nystagmus and absent light and corneal reflexes. The patellar reflex was hyperactive. Babinski and Hoffman signs were present. There was a papular rash over the arms, legs and thorax. The patient appeared moribund. She was anemic, with a hematocrit of 29, and the white blood cell count was 37,700. Pre- and post-dialysis chemical results were:

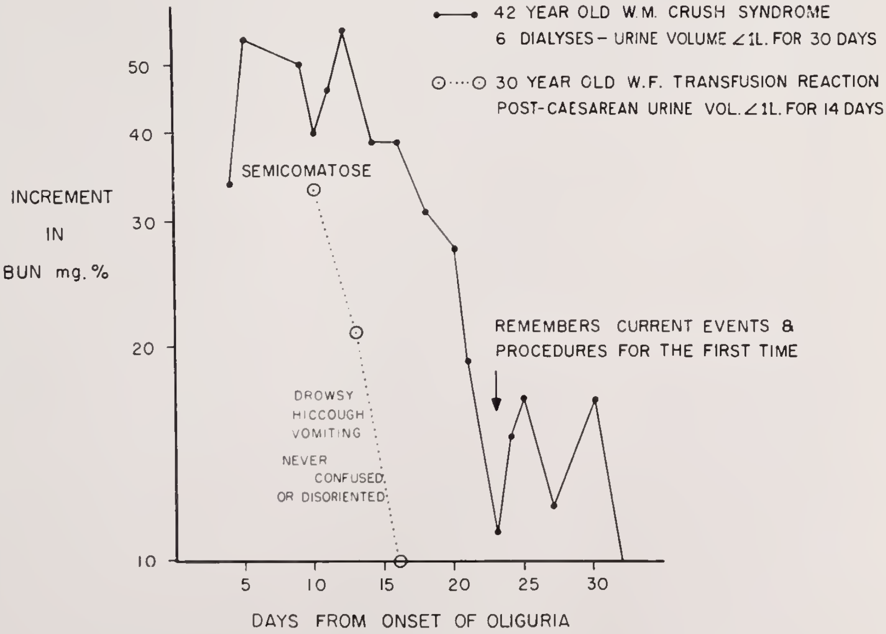

FIG. 2. Blood urea increments (dialysis and post-dialysis days are excluded) in 2 patients with contrasting clinical courses.

	BUN	Creatinine	Uric Acid	P	Na	K	Cl	CO_2
		mg./100 ml.			mEq./l.			
Pre-	180	20	20	8	152	3.5	117	11
Post-	98	7	5	3	151	3.5	120	23

She continued to undergo diuresis with a urine flow in excess of 2 ml. per minute. After dialysis the blood pressure improved, ventilation was better, and the acidotic breathing ceased. The patient remained in deep coma and had a brief period of Cheyne-Stokes respiration, and the Babinski remained positive. Thirty-nine hours after dialysis she sat up abruptly, opened her eyes and said, "I want to go home." She remained alert and rational despite several complications, including a pulmonary infection, thrombophlebitis and pyelonephritis. Despite a loss by diuresis of 31 lbs., a sinus tachycardia at rest, severe postural tachycardia (160 per minute upright), and gallop rhythm persisted. Between the second and third week after dialysis the patient showed a bounding carotid pulse, widened pulse pressure, water hammer pulse in the arm, tachycardia, stare, lid lag, tremor and quavering voice, reminiscent of the clinical picture of thyrotoxicosis. A protein-bound iodine determination could not be done because of previous iodide administration. There was focal tenderness beneath the sternocleidomastoid muscle. The clinical picture and tachycardia subsided over an 8- to 10-day interval. No signs of hyperthyroidism have appeared in a 4-year follow-up. Renal biopsy on the thirty-fifth hospital day (forty-ninth from the onset) revealed chronic pyelonephritis, healing tubular necrosis, and a small patch of cortical necrosis.

This patient illustrates a lag phase (39 hours) in the clearing of a uremic sensorium, as well as hypermetabolism in convalescence.

Our department was initially inclined to ascribe this type of hypermetabolism to anemia, but it has been unaffected by transfusion and may subside while the anemia persists or worsens. Protein-bound iodine and thyroidal radioactive iodine uptake have been normal whenever measured. The hypermetabolic syndrome has been most common in the recovery phase of postpartum acute renal insufficiency. No explanation can be offered except to speculate on such possibilities as the release of thyroid hormone from destroyed cells, altered cell-binding, or altered peripheral utilization of active thyroid principles.

Discussion

It is difficult to avoid the supposition of a relationship between the uremic syndrome and protein catabolism. The most florid uremic picture we have seen was in a man receiving infusions of protein hydrolysate while virtually anuric. Uremic patients placed on a high-protein diet get sicker and improve when the dietary protein is restricted. Battle casualties and patients with postpartum acute renal insufficiency, traumatic shock, and sepsis are like the patient in figure 1. They have the most rapid catabolism and the highest urea increment and develop the most advanced neuropsychiatric changes of the uremic syndrome, and they get sicker more quickly. Yet the basic mechanism of the uremic syndrome remains unknown. Some of the many which have been offered are listed in table 3.

TABLE 3

Suggested Mechanisms for the Uremic Syndrome

1. A single circulating toxin, as yet unidentified.
2. Combined derivatives of protein—urea, creatinine, uric acid, etc.
3. Inorganic and organic acid retention, including sulfate.
4. Retention of proteolytic enzymes.
5. Absorbed products of intestinal putrefaction.
6. Guanidine and phenol poisoning.
7. Alterations in osmotic pressure.
8. Alterations in choroid plexus with escape of circulating toxins into spinal fluid.

I share the view of Leiter[13] that "the complex pathologic physiology of uremia must include the possibility of a toxic metabolite, as yet unknown." By narrowing the definition of the uremic syndrome and applying the observations of dialyses it seems that certain speculative inferences are possible concerning the theoretical substance. The molecule should not have a radius in any projection greater than 30 Å since that is the pore radius of cellophane. It should not be grossly asymmetrical since it must traverse a pore length of 80 μ. It should not have a strong enough ionization to be attracted to, or repelled by cellophane. It cannot be firmly bound to protein or at least must be in equilibrium with

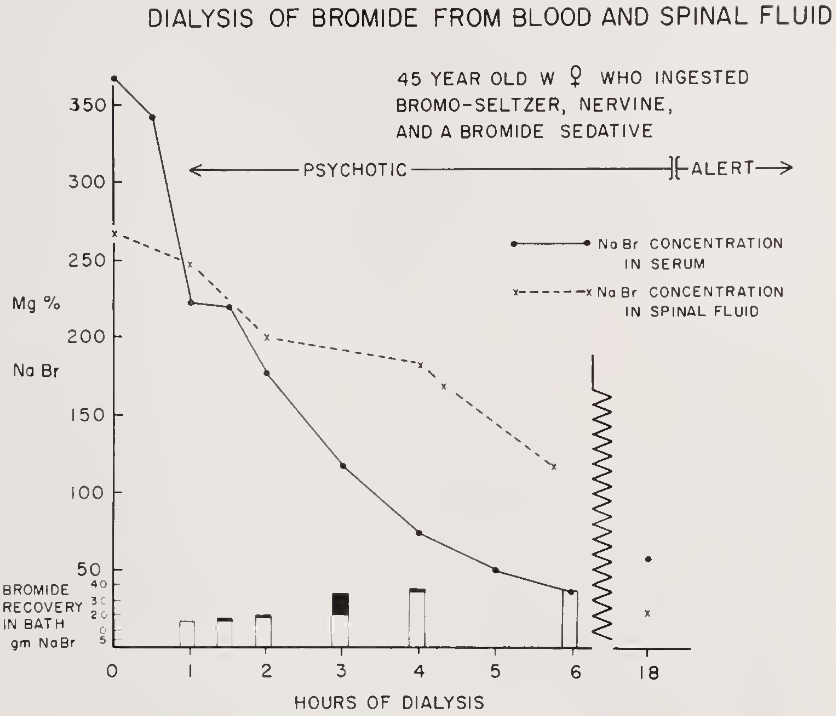

Fig. 3. The delay in diffusion of bromide out of spinal fluid is demonstrated during dialysis of a patient with severe bromide intoxication.

a significant concentration in plasma water. The concentration must be high enough to provide a significant gradient for dialysis. Probably the substance should be related to the catabolism or intermediate metabolism of protein.

Most of the other theories in table 3 have received extensive investigation and review[1, 14] with the exception of the retention of proteolytic enzymes and delineation of the blood brain barrier. Mason and Evers[1] found increased fibrinolytic activity in uremic dog sera. Baker[15] studied the abnormal binding capacity of albumin in clinical and experimental uremia. His data suggest that binding sites have been preempted by other molecules circulating in uremia. It is a frequent clinical observation that serum amylase may be elevated in renal failure and may reach tremendous levels, as shown by Meroney[16] in a study of battle casualties in whom absence of pancreatic disease could be confirmed. Recently Houck,[17] working in collaboration with our laboratory, has demonstrated elevation of a blood ribonuclease in patients with renal failure The nature and the consequence of enzyme retention in uremia would seem to warrant much greater investigation. In view of the effect of ammonia on cerebral function, even the possibility of a locally active urease should not be overlooked.

The function of the choroid plexus in the uremic syndrome has been investigated by Von Monakow, Tannenberg, Saito and others (quoted from Knutson and Baker[10]). Little data are available on the blood brain barrier in uremia. This problem attracted our attention after the demonstration (figure 3) of delayed diffusion of bromide ion from spinal fluid during rapid lowering of the blood level by hemodialysis. This was accompanied by a delay of 27 hours in the clearing of a well-developed bromide psychosis. At the time of clearing, blood and spinal fluid were back in equilibrium.

SUMMARY

Uremia has been defined as a syndrome accompanying an accumulation of the products of metabolism. The pattern of mental and personality changes has been emphasized and presented as a composite picture distinct from other situations which may produce mental changes in patients with kidney disease. Dialysis, by introducing a controllable reversibility in the uremic process, has made it possible to study the uremic patient in the downslope of chemical recovery and the upslope of re-accumulation. Observations of the effect of dialysis permit certain theoretical inferences on the nature of any specific toxic metabolite. A lag phase between clinical and

(*Continued on page 362*)

EVALUATION OF I^{131}-LABELLED DIODRAST RENOGRAMS WITH SUGGESTIONS ON IMPROVING THE TECHNIC*†

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INTRODUCTION

THERE IS A NEED for a simple, atraumatic screening test for estimating unilateral renal function. Until recently, the only such method available was the intravenous pyelogram. However, in 1956, a new technic, utilizing radioiodinated Diodrast was introduced by Taplin and his co-workers.[1, 2] At approximately the same time there was a renewed interest by Howard and his co-workers[3] and Poutasse and Dustan[4] in unilateral renal disease as a cause for hypertension. Winter[5] reported on 44 hypertensive patients in whom excellent correlation was shown between radioactive Diodrast "renograms" and conventional renal studies in 10 patients with unilateral renal disease.

In his initial report Taplin[1] attempted to estimate the vascularity, tubular cell function and patency of the upper urinary passages in each kidney separately. The purpose of this study is to evaluate this technic and to offer certain modifications which appear to increase its accuracy.

METHOD

One hundred and one patients, of whom 96 were males, were selected from the medical and urologic wards of the Mt. Alto Veterans Administration Hospital, Washington, D. C., for study.

The patient was seated astraddle a high chair with his chest supported comfortably against the back of the chair (figure 1). Two scintillation probes with 20° flat field collimator inserts ("wide field" collimation) were attached to analytical rate meters and to their respective recorders and placed at right angles to the renal areas.‡ The range of the rate meters was set to

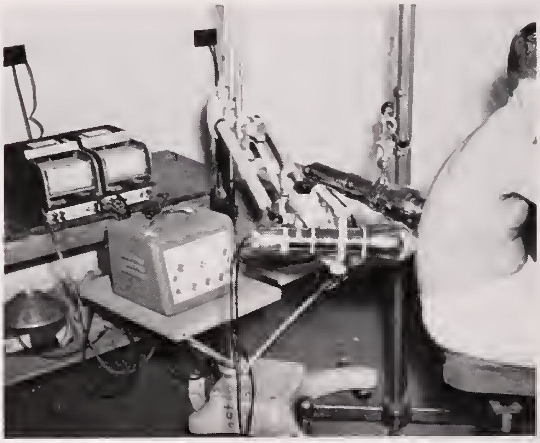

FIG. 1. The placement of scintillation probes and equipment.

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* From the Medical and Radioisotope Services, Mt. Alto Veterans Administration Hospital, Washington 7, D.C., and the Department of Medicine, Cardiovascular Research Laboratory, Georgetown University School of Medicine.

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† Presented at the Regional Meeting of the American College of Physicians in Washington, D.C., November 1, 1958.

‡ DS-5 probes with 2-inch sodium iodide-thallium activated crystals, Nuclear Chicago. 1620 rate meters, Nuclear Chicago. Recti-Riters, Texas Instrument Company.

count radioactivity between zero and 3,000 counts per minute ("3K" setting) or between zero and 10,000 counts per minute ("10K" setting). The activity was sampled every 10 seconds, and the recorder chart speed was set at 6 inches per hour.

A preliminary test dose of approximately 3 to 5 microcuries of radioiodinated Diodrast was given intravenously and the probes moved about so as to locate the renal areas of highest activity. The probes were then fixed in position over those areas. One hundred and twenty-five milligrams of carrier, or nonradioactive Diodrast, was added to the preliminary dose in order to saturate some of the plasma albumin-binding sites and thus facilitate the clearance of the I^{131}-labelled Diodrast, as advised by Block and Burrows.[6] Following the "washout" of the initial dose, the baseline of each recorder was reset to compensate for the small somatic background. The full test dose of approximately 7 to 15 microcuries of I^{131} Diodrast was given intravenously and a record obtained over a period of 15 to 20 minutes.

RESULTS

Of the 101 patients tested, 30 had no known renal disease and served as normal controls (table 1). All of these patients exhibited normal renograms. There were 29 patients with suspected renal disease, and all had abnormal renograms. Finally, there were 42 patients with hypertension, 24 of whom exhibited normal and 18 abnormal renograms.

TABLE 1

Classification of Cases

	NUMBER	RENOGRAMS	
		Normal	Abnormal
Normal	30	30	0
Renal disease	29	0	29
Hypertension	42	24	18
TOTAL	101	54	47

The renograms of 22 patients without hypertension, but with suspected renal disease, suggested unilateral renal disease (table 2).

TABLE 2

Renal Disease Patients

	Renograms	Clinical Diagnosis
Unilateral	22	20
Right	13	11
Left	9	9
Bilateral	7	9

Twenty of these patients had unilateral renal disease diagnosed and proven clinically, 14 by surgery and 6 by pyelography. The other 2 patients exhibited abnormal renograms on the right but were shown clinically to have bilateral renal disease. Of the 20 patients who had unilateral renal disease demonstrated clinically, the diseased kidney was correctly indicated by the renogram in each case. Of these, 13 were on the right and 9 on the left. Thus, all of the patients with abnormal renograms did, in fact, have abnormal underlying kidneys. Although bilateral disease was not detected in 2 instances, it should be pointed out that both of these patients were studied early in the investigation, prior to the use of the preliminary test dose for localization.

TABLE 3

Hypertensive Patients

	Renogram	Impaired Function	Howard Test
Bilateral	13	13	1
Unilateral	5	2	0
Right	4	0	3
Left	1	0	1
Normal	24	1	0

Of the 42 hypertensive patients (table 3) 24 exhibited normal renograms and only 1 of these had impaired renal function (blood urea nitrogen 34 mg. per 100 ml.). All 13 hypertensives with bilaterally abnormal renograms also had impaired renal function by other clinical tests.

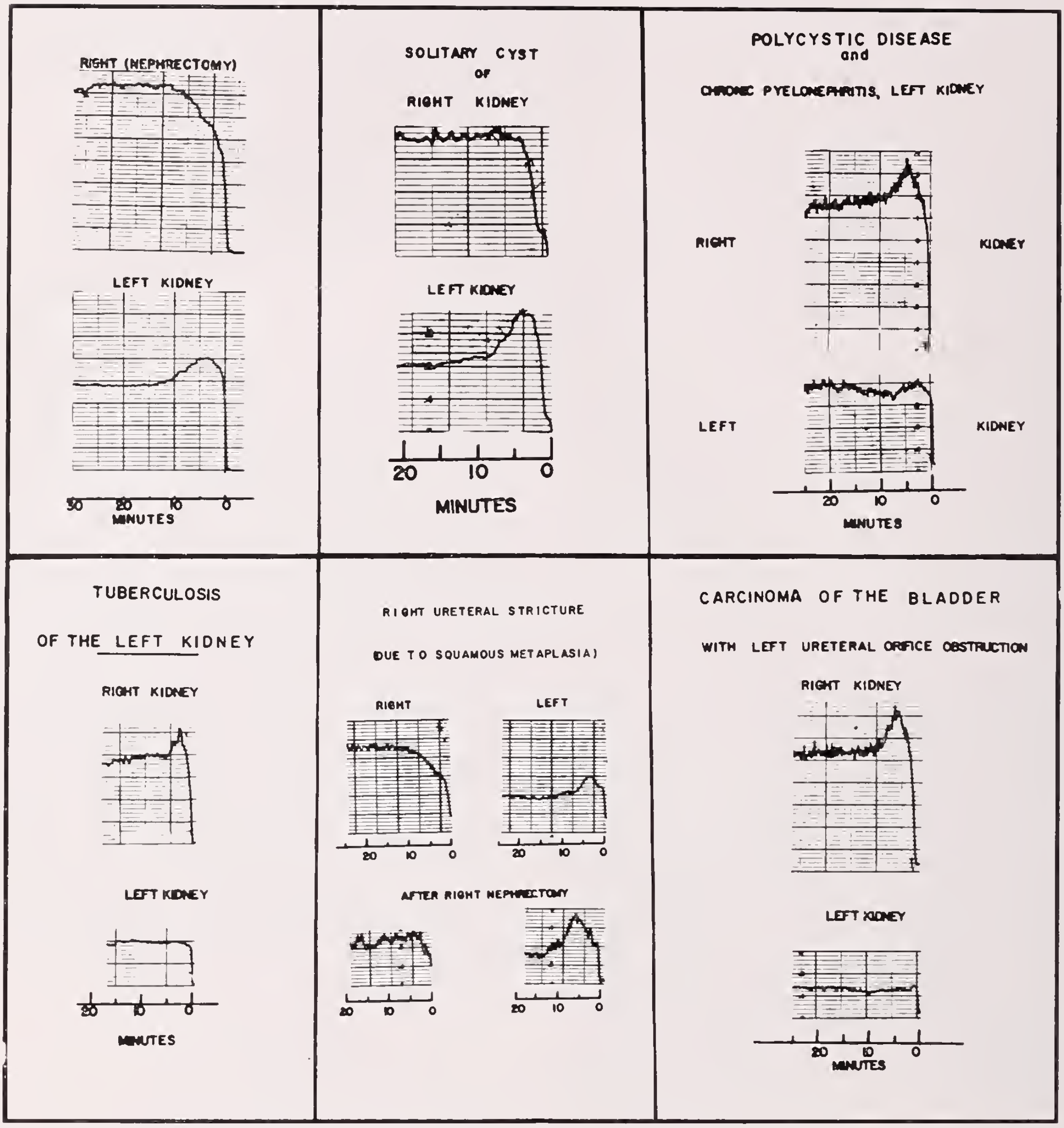

Fig. 2. Renograms of patients with various types of unilateral renal disorders.

Of the 5 hypertensive patients with unilateral abnormal renograms, all but 1 patient had normal renal function studies. This patient has a pyelectasis of the right renal pelvis proven by intravenous pyelography. Only 1 of the 4 patients having the Howard test had abnormal results confirming the abnormal renogram. This patient had an aortic aneurysm with involvement of his left renal artery. A second patient, with a normal Howard test, on aortography showed a constriction of the right renal artery which confirmed the abnormality indicated by the "renogram." The remaining 3 patients have not yet had aortograms in an attempt to confirm or reject the renographic diagnosis of unilateral renal disease.

The renograms of a patient who had undergone right nephrectomy are shown in figure 2.

The curves are to be read from right to left. In the normal left kidney there is the characteristic peak of activity at approximately 5 minutes, followed by renal excretion or "washout." On the right side, the curve rises gradually to a plateau in 10 minutes without subsequent excretion, reflecting the hepatic and somatic background activity in the absence of a kidney.

It was important to determine whether the hepatic and somatic background could be screened out. Taplin indicated that the hepatic background could be kept to a minimum by X-ray localization of the kidneys and by caudal or inferior direction of the probe. In experimenting with different positionings of the probes, it was soon found that a higher peak and steeper washout of the curve were obtained by directing the probes at right angles to the back.

Further examination with different types of collimators demonstrated that a still more sharply defined peak and excretion could be obtained by using wide-field collimation on the right-angle-directed probes. Figure 3-A shows the renograms of a normal patient without the use of collimation. Since the field is more extensive, somatic and hepatic background was recorded, resulting in a poorly defined peak concentration. When the field was reduced by using a 9° straight-bore collimator insert ("narrow field" collimation) (figure 3-B), there was only a small amount of renal tissue open to the crystal. Consequently, it was necessary to decrease the range of activity on the rate meter and provide a shorter time-constant in order to obtain recordings. This change in the instrument settings resulted in fluctuating the distorted curves. Wide-field collimation provided the best compromise (figure 3-C), since it avoided the disadvantages of both of the previous methods, permitting a narrow enough field to effectively screen out somatic and hepatic background activity and, at the same time, a sufficiently wide field to obtain a representative cross-section of functioning renal tissue, without the necessity for high-sensitivity recording.

The importance of collimation is better depicted in figure 3-D, where the hepatic background is shown following the recording of the right renogram. At point "P.L." the probe was moved upward over the liver posteriorly, and at point "A.L." it was placed over the liver anteriorly. It is apparent that hepatic background needs to be carefully screened out posteriorly on the right side.

The most important factor, however, in localizing the renal area of highest activity was the use of the small preliminary dose of radioiodinated Diodrast. At the time the kidneys are taking up the material, the collimated probes are moved over the renal areas to find the locus of highest activity. Slight movement of the probe by as little as 1 inch resulted in appreciable differences in the peak height and downslope of the curves. This technic was particularly useful on the right side where the hepatic activity could be defined and the probe moved inferiorly just below this area of liver background. Following this, the probe could be moved from side to side in order to center on the site of greatest renal activity. This method was far more effective in our experience than attempting to use roentgenograms for localizing the placement of the probes.

By decreasing the range of the rate meters and by using the wide-field collimation a smaller dose of the I^{131} Diodrast could be administered. Although Taplin recommended a specific dosage proportional to body weight, we have not arrived at a single optimum dosage, and in general 7 to 15 microcuries was given as the test dose and 3 to 5 microcuries for the preliminary dose.

Discussion

It was not possible to distinguish differences in the various phases of renal excretion of the I^{131}-labelled Diodrast in normal and abnormal kidneys. The records are, in effect, a semi-quantitative renal function study in that the

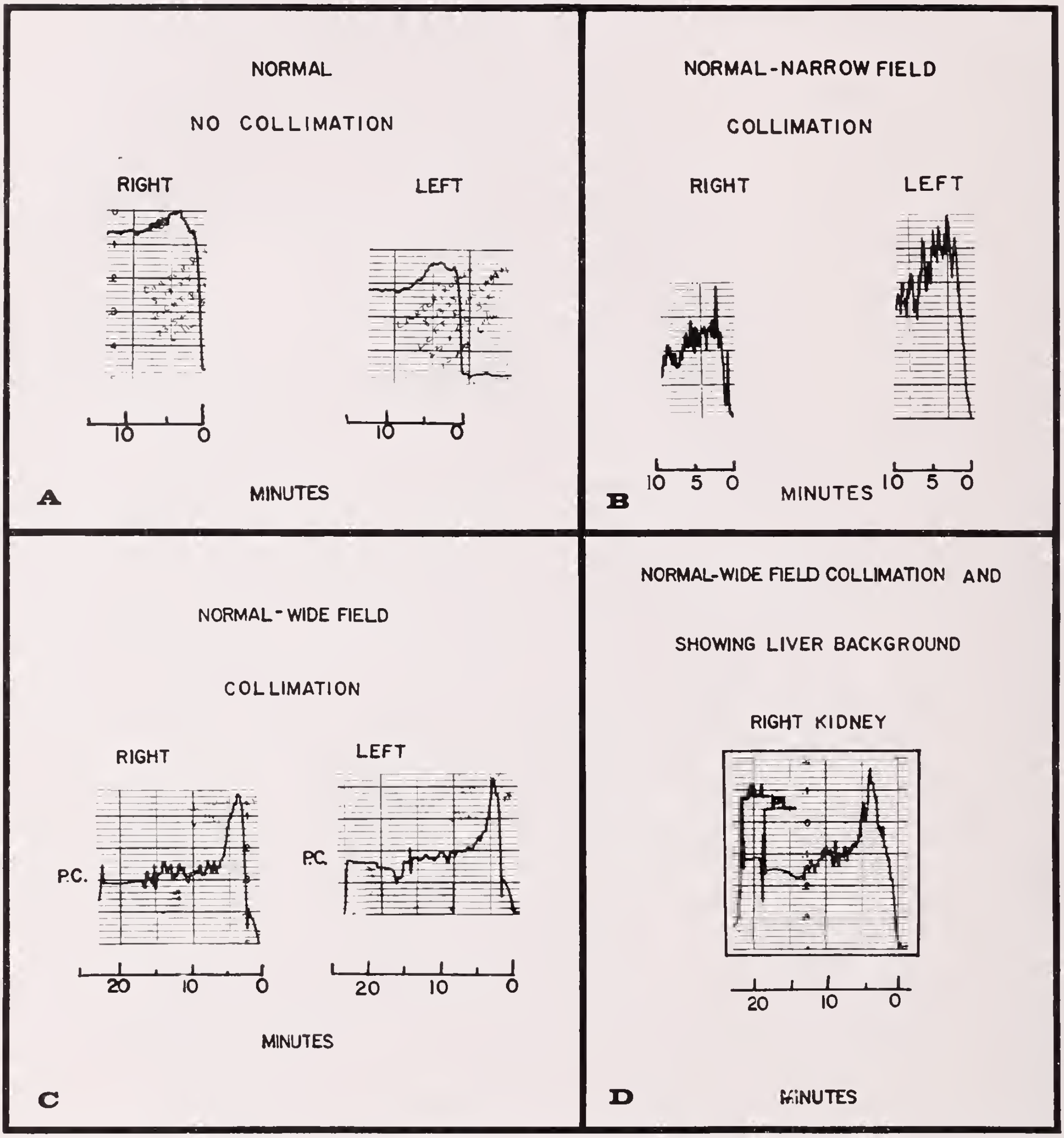

FIG. 3. Renograms showing (A) the type of records obtained with no collimation, (B) "narrow-field" (9° straight-bore insert) collimation, and (C) "wide-field" (20° flat-field insert) collimation. (D) The effect of positioning the probe over the liver posteriorly (P.L.) and anteriorly (A.L.). Time scale is from right to left. See text for further details.

renograms depict the uptake and excretion of the Diodrast of each kidney separately.

The only detectable abnormality was the delay in the excretion or "washout" of the Diodrast. This is illustrated in a variety of renal diseases in figure 2. Such results did not suggest that the renal lesion can be located with any anatomic precision to the vascular, glomerular or tubular portions of the kidney. This point of disagreement with Taplin does not detract in any way from the utility of the procedure as a screening method for determining the presence of renal disease. It appears that the use of radioiodinated Diodrast is a useful technic in detecting unilateral renal disease. In none of the cases studied thus far was there an abnormal intravenous pyelogram and normal renogram.

This new method may be especially useful in the routine screening of hypertensive patients for the presence of unilateral renal disease, a curable form of hypertension. Further work is still required to establish its accuracy and limitations. The evidence to date is encouraging and suggests that a negative test (normal renogram) may rule out the possibility of a unilateral renal abnormality.

Renograms may also be useful in corroborating abnormal intravenous pyelograms. They can be helpful to the physician who is following patients with a history of a urologic procedure. A further advantage is the small dose of radioiodinated Diodrast which exposes the patient to less total body radiation than that received from a roentgenogram of the chest. This dosage of radioactivity will deliver not more than 40 microcuries of total body radiation. Finally, it is suggested that this technic may be useful as a semi-quantitative method for serial follow-up evaluation of kidney function in patients with chronic renal disease.

Summary and Conclusions

One hundred and one patients with urologic complaints, hypertension or no renal disease were studied with I^{131} Diodrast renograms. Although the tracings were improved by (1) wide-field collimation, (2) directing the probes at right angles to the back, and (3) pretreatment with carrier Diodrast, the sharpest rendition of renal uptake and excretion was obtained when the probes were positioned over the areas of highest activity following a small preliminary test of I^{131} Diodrast.

The technic reliably delineated the side of gross unilateral renal disease. Its application as an atraumatic screening procedure for unilateral circulatory abnormalities of the kidney in patients with chronic hypertension seems especially promising.

Acknowledgments: The authors acknowledge the technical assistance generously offered by Thomas F. McNickle and Joseph C. Fedor of the Radioisotope Laboratory at Mt. Alto Veterans Administration Hospital. The National Heart Institute, and particularly Dr. Eugene Braunwald, is acknowledged for obtaining aortography on 1 of these patients.

BIBLIOGRAPHY

1. Taplin, G. V., Meredith, O. M., Jr., Kade, H., and Winter, C. C.: Radioisotope renogram: an external test for individual kidney function and upper urinary tract patency. J. Lab. & Clin. Med., 1956, **48,** 886.
2. Winter, C. C.: Clinical study of new renal function test: radioactive Diodrast renogram. J. Urol., 1956, **76,** 182.
3. Howard, J. E., Berthrong, M., Gould, D. M., and Yendt, E. R.: Hypertension resulting from unilateral renal vascular disease and its relief by nephrectomy. Bull. Johns Hopkins Hosp., 1954, **94,** 51.
4. Poutasse, E. F., and Dustan, H. P.: Urologic causes of hypertension; hypertension due to renal artery lesions. Cleveland Clin. Quart., 1956, **23,** 3.
5. Winter, C. C.: Unilateral renal disease and hypertension: use of radioactive Diodrast renogram as screening test. J. Urol., 1957, **78,** 107.
6. Block, J. B., and Burrows, B. A.: Renal clearance of I^{131} Diodrast at low plasma concentration. Clin. Res., 1958, **6,** 284.

THROMBO-EMBOLISM*

Part II

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Complications

UNTREATED phlebothrombosis has a tendency to progress to (a) chronic cor pulmonale, (b) severe peripheral venous insufficiency, or (c) sudden death.

Those with massive pulmonary embolism may survive, develop pleural effusion, right-heart strain and failure, enlarged bronchial arteries, or recanalization of the pulmonary embolus.[6] In such cases the arterial channel can later be found to be thickened proximally and very thin-walled distally as is seen in certain cases producing a picture of Ayerza's disease. External compression of a pulmonary artery with obstruction or internal obstruction of the main pulmonary trunk is necessary in experimental animals to produce changes in the femoral arterial pressure, respiratory rate, heart rate, or general condition of the animal.[52]

The postphlebitic syndrome is associated with the severity of the phlebitis and not the type of treatment.[20]

Although the literature has numerous, widely varying statistics, it is probable that approximately one-half of all fatal pulmonary embolisms occur without previous warning. Heart disease is especially associated with a high incidence of fatal pulmonary embolism.[5] Because patients withstand pneumonectomy and other patients succumb to large embolisms confined to one lung, it is presumed that pure mechanical interference with flow through the pulmonary arteries cannot completely explain the patient's demise. Various reflexes have been postulated as being of critical importance in these terminal states.[6] The problem of the importance of significant reflexes producing death following pulmonary embolism cannot be settled from the available evidence.[52]

Prognosis

Thrombophlebitis carries approximately a 5 per cent mortality.[18] Severe, preëxisting cardiac or pulmonary disease makes the prognosis worse and embolism in one or a few small pulmonary arteries may be fatal. The prognosis also varies with the index of suspicion exercised by the attending staff, because one-third of fatal pulmonary embolisms are preceded by nonfatal pulmonary embolisms.[20, 53] Between the sixth and eleventh days after abdominal surgery, delivery or trauma is the period of greatest likelihood of pulmonary embolism. Patients who succumb to this condition usually do so within less than an hour—one-half die within 5 minutes.[9] The mortality trend increases with age.[20] In a recent careful study Israel and Goldstein[11] found that following pulmonary embolism 77 per cent of their patients recovered and 23 per cent died. In the 17 autopsies conducted in this study pulmonary embolism was thought to be the cause of death in 9 cases, a contributory factor in 7, and an incidental event in 5.

Prevention

Venous thrombosis can be prevented by (a) early ambulation, (b) elastic supports of the legs, and (c) the use of anticoagulants.

Another approach in reducing the incidence of venous thrombosis and possible pulmonary embolism is by attacking each of the underlying 3 causative factors[30]: (a) intimal damage by avoiding subcutaneous or intravenous injections in the lower extremities, (b) venous stasis by avoiding immobilization with the use of elastic supports, and (c) increased blood coagulability by using anticoagulants.

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* This is Part II of a thesis prepared in partial fulfillment of requirements for advancement to Fellowship in the American College of Physicians. Part I was published in the May issue of the MEDICAL ANNALS.

Because of the dramatic and often serious way this disease presents itself it is not suitable to plan on treating the patient after it is detected, but generally applicable prophylactic measures are essential if we are to make any progress on this problem.[21]

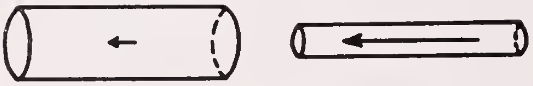
Selection of patients. Many efforts have been made to anticipate which patients will develop thrombosis and therefore are in special need of therapy for its prevention. According to Feissly[54] such people can be detected by (a) platelet counts preoperatively and from the third to the fifteenth postoperative days, and (b) heparin-resistance tests on the whole blood to determine its coagulating capacity.[21] Others think that no simple effective means to detect the patients with an increased tendency to thrombo-embolism exists, so we must use general prophylactic measures.[21] Numerous attempts have been made in the United States and other countries[55] to select those demonstrating certain blood changes, especially predisposing them to the danger of thrombosis, and to treat this selected group with anticoagulants. These efforts have met with varying degrees of success; in general no single factor that can be easily determined has been widely accepted as the key to this problem. There is general agreement that all patients with rheumatic heart disease and auricular fibrillation who cannot be converted to a normal sinus rhythm are especially predisposed to pulmonary embolism, so that unless specific contraindications exist they are candidates for continuous anticoagulant therapy.[53] Anticoagulants should also be administered to all patients with chronic severe congestive heart failure. The best treatment of phlebothrombosis is to anticipate it in the malnourished patient, with recent shock, acute coronary occlusion, mild congestive heart failure, lower abdominal surgery, the listless inactive patient, or those with anemia, carcinoma, or intra-abdominal inflammatory disease.[31]

Preoperative preparation. Loewe and associates[7] recommend preoperatively (a) reduction of weight in the obese patient, (b) correction of varicose veins, (c) medical supervision of cardiac abnormalities (congestive heart failure, arrhythmias, etc.), and (d) correction of anemias.

Ambulation. To be most effective in preventing venous thrombosis a prophylactic program should include[18] proper positioning on the operating table and careful attention to avoiding damage to veins or pressure on extremities, postoperative elevation of the foot of the bed, breathing exercises and leg exercises every hour, early ambulation and avoiding heel-less slippers. Early ambulation is associated with a reduction in the incidence of thrombo-embolic disease from 53 per cent to 18 per cent, and especially is the incidence of pulmonary embolism reduced, according to Loewe.[7] Many authors emphasize that ambulation must be early, active, vigorous, repeated and not "too little and too late" if it is to be effective in preventing venous thrombosis. By greatly increasing the velocity of the blood stream early vigorous ambulation will prevent the development of large, loosely attached clots or wash them away while they are still in the sludge state.[56] Wherever early ambulation can be accomplished to an effective degree the incidence of venous thrombosis during the postoperative and postpartum period is unquestionably reduced.[57] Slippers with heels or shoes should be worn during the early ambulation, some authors think, and together with the use of a trapeze over the bed are important adjuncts in the prevention of phlebothrombosis.[58] On prolonged automobile trips, especially older patients should get out and walk every few hours; they should avoid sleeping in a sitting position and should move their legs frequently while riding.[25] A program of systematic leg and foot exercises is beneficial in those patients who cannot be ambulated early.

Superficial vein ligation and the routine administration of alpha-tocopherol also have adherents,[18] although there appears to be less enthusiasm for these procedures in the literature in recent years.

Elastic bandages or stockings. Pressure bandages on the legs of all those surgical patients especially predisposed to venous thrombosis may materially reduce the incidence of venous thrombosis.[21] Elastic compression of both lower extremities should be tried on elderly medical patients who are suddenly submitted to long periods of bed rest, on surgical patients, gynecologic patients, and obstetrical patients.[21] The altered hemodynamics accompanying the use of such stockings is illustrated in figure 2. Benefit from the routine application of low pressure TED Bauer and Black elastic stockings for all immobilized patients has been shown to occur. Their use reduces the incidence of fatal and nonfatal pulmonary embolism[30, 59] as can be seen from the following figures:



	No External Pressure on Calf	15 mm. Hg External Pressure on Calf
Total Diameter of Veins	**1.84 cm.**	**0.82 cm.**
Total X-section of Veins	**2.65 cm.^{2}**	**0.53 cm.^{2}**
Mean Linear Velocity of Blood	**0.5 cm./sec.**	**2.5 cm./sec.**

FIG. 2. Increase in mean linear velocity of blood in veins of the leg where 15 mm. mercury external pressure on the calf is applied.[59]

	Stockings	*Control*
Fatal pulmonary embolism	0	4
Nonfatal pulmonary embolism	2	12
Thrombotic disease without embolism	16	11
Possible thrombotic disease without embolism	20	18

The incidence of embolism, both fatal and nonfatal, appears especially to be reduced, whereas the incidence of venous thrombosis was apparently not favorably affected.[59] The following figures present a different statistical analysis of the probable effect of the routine application of low pressure TED elastic stockings to hospitalized patients:

	Total Cases	*Fatal Pulmonary Embolism*	*Nonfatal Pulmonary Embolism*	
			Contributory	*Incidental*
Control	4,450	7	10	4
Study	5,467	3*	5†	4†

* Only 1 of these can be regarded as an actual failure of elastic stockings; a male, 84 years old, 10 days after colectomy for carcinoma, died from pulmonary embolism. A man, 48, entered the hospital with pulmonary infarction and died 4 days later; a woman, 56, with carcinomatosis, died 2 days after gastrectomy—no stockings were used.

† Only 2 of the 5 "contributory" and 1 of the 4 "incidental" nonfatal cases actually wore the elastic stockings.[60]

Wilkins and Stanton[60] believe that every type of hospital patient may safely wear elastic stockings except those with severe local disease of the legs, such as ischemia, inflammation or trauma. "Elastic stockings are not a substitute for, but an addition to measures designed to prevent pulmonary embolism, such as anticoagulants and venous ligation. They apparently prevent venous thrombosis in the calves and, through this effect, reduce the incidence of pulmonary embolism." The altered hemodynamics with low pressure TED elastic hose is well explained by Litter.[36]

A careful study[59] on large comparable groups of patients wearing stockings and control patients to determine their effect in preventing pulmonary embolism disclosed:

	Stockings	*Control*
Fatal pulmonary embolism	0	4
Nonfatal pulmonary embolism	2	12

Hussey[22] believes elastic compression should be used on the unaffected leg and in the affected leg as soon as signs of inflammatory activity abate. Ten to 15 mm. of mercury pressure should be exerted. Later, when the patient is ambulant, more compression may be used on the affected leg. Trimble and Lynn[21] endorse these general conclusions in their study: (1) Since the treatment is generally not entirely satisfactory, prophylaxis is essential; (2) since there are no simple effective means to detect the patients who have an increased tendency to thrombo-embolism, general prophylactic measures must be adopted; and (3) elastic compression of both lower extremities should be used on surgical, gynecologic and obstetrical patients, and on elderly medical patients who suddenly are submitted to long periods of bed rest.

All persons using the elastic leg supports as a routine preventive procedure have not found them to be useful.[57]

Vein ligation. A few authorities urge venous ligation on the cardiac side of the thrombus.[10] They urge ligation, or resection of a segment, either of the superficial femoral veins bilaterally or ligation of the inferior vena cava. In pylephlebitis bacteria will clot the fibrinogen even in the presence of anticoagulant therapy, and the portal vein must be ligated, according to Hussey.[22] He thinks that bilateral superficial vein ligation should be used only if anticoagulant treatment is contraindicated or pulmonary embolism recurs in the face of adequate anticoagulant therapy. In the same book Allen[31] writes that anticoagulants appear to be preferable to vein ligation. There is a definite trend in the literature away from vein ligation toward the use of anticoagulants.[18, 28]

Dicumarol. Conservative depression of the prothrombin to 40 to 50 per cent of normal gave satisfactory prophylaxis and negligible hemorrhagic complications.[2] In 3,304 cases of major abdominal and pelvic surgery given Dicumarol postoperatively in this study there was only 1 death under circumstances in which the significance of the Dicumarol administration and the presence of pulmonary embolism were questionable. There were 3 patients with hemorrhagic complications necessitating transfusions.[2] In 9,250 similar controls there were 13 embolic deaths. Other studies are appearing in the literature advocating the use of anticoagulant drugs for the prevention of pulmonary embolism.[4]

Pseudarthroses in 4 patients receiving anticoagulant therapy immediately postoperatively for thrombophlebitis stimulated Stinchfield and associates[61] to study the effect of anticoagulant therapy on bone repair in rabbits and dogs. Their studies suggested that preoperative anticoagulants led to delayed union; anticoagulants in the immediately postoperative period led to fibrous union; anticoagulants 1 week postoperatively led to delayed union. Other studies confirming this special hazard in the use of anticoagulants have not come to my attention. It is pertinent that Stinchfield suggests that these results may not occur in human patients. It is noteworthy that the doses were in the therapeutic range and might not have similar effects when anticoagulants are used in smaller doses for prophylaxis of venous thrombosis. Loewe[7] recommends heparin for this purpose. With postoperative oozing or poor hemostasis, as in gastric surgery, the prophylactic anticoagulants must be withheld until the third or fourth day, he states. Allen and associates[8] at the Mayo Clinic recommended that prophylactic anticoagulants be avoided with renal insufficiency, brain or spinal cord surgery, blood dyscrasias, ulcerative lesions, nutritional deficiency or hepatic diseases. Prophylactic Dicumarol in the early postpartum period in dosages to maintain the mother's prothrombin determination between 10 and 30 per cent will permit the effect to be transmitted through the breast milk, but the baby's blood will have 90 to 100 per cent of normal prothrombin at birth.

Dicumarol has been used to prevent pulmonary embolism in those especially predisposed to it for more than 10 years with considerable success by the Mayo Clinic[8]:

	Expected	*Occurred*
832 with abdominal hysterectomies:		
Venous thrombosis or pulmonary embolism	33	3*
Fatal pulmonary embolism	6	0

*Minor venous thrombosis

They now use prophylactic anticoagulant therapy for postoperative patients who have ever had venous thrombosis or pulmonary embolism and for most patients who have pelvic laparotomies.[57] Prophylactic anticoagulant therapy postoperatively is also used at the discretion of the surgeon when he thinks there is an increased risk of thrombosis, such as following extensive resections of the stomach or colon.

In any individual over 40 years of age who undergoes major surgery and is bound to be debilitated for even a couple of days, Donaldson[58] and his associates use anticoagulants. This is begun on the day following operation, usually with a single dose of 200 mg. of Dicumarol. The prothrombin time is checked in 48 hours and if it is not down to 30 per cent or less the Dicumarol dose is repeated. They believe the prothrombin time should remain prolonged until the patient is active and has regained normal muscle tone of his legs. This régime is also carried out in younger people who are predisposed to phlebitis (such as those with obesity, intestinal obstruction, distention, or particularly debilitating surgery). This preventive measure is also applicable to inactive and immobilized medical patients.[58] Some of the apparent inconsistencies in response to Dicumarol may be from varying protein, vitamin C, and possibly vitamin P intake.[62]

Allen[31] uses 200 or 300 mg. of Dicumarol 8 hours preoperatively and resumes the use of the drug in 2 or 3 days until the patient is ambulatory in order to prevent phlebothrombosis. In the treatment of established thrombophlebitis he uses 200 to 300 mg. of Dicumarol at the outset of treatment, 50 mg. of intravenous heparin and 200 mg. of Depo-Heparin every 12 hours for 3 doses. An attempt is made to keep the prothrombin 3 to 5 times the control level for several weeks. The pain leaves with adequate anticoagulant therapy, and the patient may be ambulated. Protamine sulfate, 100 mg., intravenously for heparin excess or 100 mg. of intravenous vitamin K_1 oxide for Dicumarol excess should be used to prevent and treat any bleeding complications. Antibiotics are used only if actual infection exists. In Allen's opinion, procaine blocks of the lumbar sympathetics are not advisable.

In the same book Hussey[22] states that pulmonary embolism can best be treated with 50 mg. of heparin intravenously every 4 hours until the Dicumarol becomes effective and the prothrombin time can be maintained at 2 to 2½ times the control level. He believes that pulmonary embolism can be prevented with long-term anticoagulant therapy in preference to inferior vena cava ligation in those especially predisposed, such as adult cardiac patients, postoperative, postpartum, hemiplegic, and all older immobilized people regardless of the cause.

Treatment

After there is established venous thrombosis, pulmonary embolism may be prevented by (a) the use of anticoagulants and/or (b) ligation of both common femoral veins or the vena cava. After venous thrombosis has developed it is important to prevent the obstruction of lymphatic channels and veins, which leads to persistent edema and chronic ulcers. This can be accomplished by the use of anticoagulants, elevation of the limbs, repeated paravertebral blocks, and bandaging.[14] After thrombo-embolism is established several different modes of therapy are available. A clue to their relative merits can be seen in table 6.[5]

Most authors do not appear to share Ochsner's enthusiasm for ligating the inferior vena cava. Other agents important in treating pulmonary embolism include[22]: (a) vasopressor drugs intravenously in 5 per cent glucose in distilled water, (b) oxygen, (c) morphine sulfate (¼ gr.) intravenously with shock, (d) subcutaneous procaine or intercostal nerve block for pleurisy-type pain, and (e) digitalis.

Antibiotics should be used in selected patients (a) when pneumonia cannot be excluded, (b) later when there is evidence of secondary infection of the infarct, (c) when there is infection elsewhere, and (d) with septic infarction.

TABLE 6

Evaluation of Methods of Therapy

Method	Patients	Died	Per cent
No treatment	524	439	84.0
Anticoagulants	66	7	10.6
Ligation and anticoagulants	13	1	7.7
Vein ligation alone	168	8*	4.8

* Six of these 8 fatalities might have been avoided with inferior vena caval ligation.

Vein ligation. Most authors appear to think that after vena caval ligation the dyspnea with exercising the legs and the postphlebitic syndrome are such common complications as to make the value of the procedure dubious.[21, 63] For phlebothrombosis of the calf veins, ligation is thought to be the treatment of choice by many[18] even though swelling of the leg, varicose veins, ulceration, and cramps may develop. Others think vein ligation should be reserved for the situations where anticoagulants are contraindicated or embolism recurs despite adequate anticoagulant therapy.[53] There appears to be a tendency for more people to use anticoagulants in the treatment of phlebothrombosis and pulmonary infarction[58]; however, several people still advocate tying off femoral veins or occasionally the vena cava in selected situations. Surgical interruption must be a division of the vein with removal of a segment.[23] Crane[35] believes that heparin should be used for healthy patients with venous thrombosis or pulmonary embolism in a background of short-term illness or injury and that surgery on the femoral veins should be used for patients with congestive failure or recent myocardial infarction. Patients in whom success with heparin is reduced and for whom one author prefers surgery on the femoral veins are aged patients, depleted patients with complications, and those with more bed rest, more cancer, more congestive failure, sepsis, obesity and previous deep venous thrombosis. Vena caval ligation should probably be reserved[35] for patients with (a) pulmonary embolism with iliofemoral thrombosis after anticoagulants or when they are contraindicated, (b) pulmonary embolism after femoral vein division, and (c) pulmonary embolism from septic pelvic thrombophlebitis.

Anticoagulants. Approximately 10 years ago the value of Dicumarol for the treatment of established postoperative venous thrombosis was recognized as shown in the following results.[8]

	Expected	*Occurred*
352 cases of postoperative venous thrombosis:		
Subsequent thrombosis or embolism	88	9*
Fatal pulmonary embolism	20	0

* Minor venous thromboses

The value of anticoagulants for the treatment of patients with pulmonary embolism has also been recognized for 10 years[8]:

	Expected	*Occurred*
329 patients with pulmonary embolism:		
Subsequent venous thrombosis or pulmonary embolism	144	3
Fatal pulmonary embolism	60	1*

* Occurred after prothrombin time had returned to normal

There is a growing belief that whenever venous thrombosis is suspected or known the use of anticoagulants is the treatment of choice.[60] Probably heparin provides a broader spectrum of protection against intravascular clotting than does Dicumarol.[30] In a recent study[64] anticoagulant was given to 5,000 patients with no deaths due to the anticoagulant. The prothrombin levels were determined by a modified Owren's method, using a dried reference standard and a special anticoagulant for preservation of prothrombin activity. One should treat both pneumonia and pulmonary infarction if a differentiation cannot be made with certainty.[30] Long-term anticoagulant therapy has been successfully used in rheumatic heart disease with embolic episodes, myocardial infarction, a miscellaneous group with thrombo-embolic complications, and in patients with recurrent thrombophlebitis with or without pulmonary embolism[65] with success. The Dicumarol need is decreased with an upper respiratory tract infection, diarrhea, intestinal sterilizing antibiotics, low food intake, or excessive use of alcohol. Approximately 50 mg. of Dicumarol per day will maintain most patients in the desirable 20 to 35 seconds prothrombin range. For overdosage or hemorrhagic complications from coumarin anticoagulants, vitamin K-1 emulsion is the superior counteractant according to Bramble and Capone.[66]

Contraindications for long-term anticoagulant therapy are[67]:

(a) Absolute:
  - Subacute bacterial endocarditis
  - Purpura
  - Blood dyscrasia with bleeding tendency
  - Recent brain or spinal cord operation
  - Inadequate laboratory facilities

(b) Relative contraindications:
  - Hepatic insufficiency
  - Renal insufficiency
  - Indwelling gastrointestinal tract tube
  - Malnutrition

Another recent study on the value of anticoagulant therapy in the prevention of thrombo-embolic episodes in patients with recurrent thrombophlebitis is reported below[11]:

Patients	*Without Anticoagulants*		*With Anticoagulants*	
	Patient Months	*Episodes*	*Patient Months*	*Episodes*
24	2,207	92*	896	7†

---

* Includes 63 thrombophlebitis and 20 pulmonary embolism

† Thrombophlebitis in 7 patients

SUMMARY

Because thrombo-embolism permeates nearly all fields of clinical medicine, it is appropriate to review some of the new considerations for the detection and management of this common important disorder. Untreated it has a tendency to lead to chronic cor pulmonale, severe peripheral venous insufficiency, or even sudden death. It is estimated that 30,000 people per year die from thrombo-embolism in this country. Its prevention or effective treatment is, therefore, of prime importance to all those in clinical medicine.

For decades the triad of intimal damage, venous stasis and increased blood coagulability has been incriminated as causing phlebothrombosis and pulmonary embolism. Recent studies have shown a temporary rise in the convertin complex, increased platelet adhesiveness, and possible liberation of thromboplastic elements from a gravid uterus, traumatized tissues or necrotic tumors as factors contributing to the hypercoagulable state. Probably venous stasis is the initiating factor in most cases of thrombo-embolism.

In the absence of any "positive" tests for phlebothrombosis or pulmonary infarction the diagnosis is best established with a careful history, a meticulous physical examination, and a high index of suspicion. All ancillary aids from the laboratory and X-ray departments constitute "probable" evidences that aid materially in establishing the diagnosis of thrombo-embolism and in excluding numerous confusing clinical conditions.

Clinical evidence, together with serial X-ray examinations for the usual signs of pulmonary embolism (infarction, respiratory inhibition, basal atelectasis, pulmonary oligemia, dilatation of the hilar arteries, pleural effusion, or pulmonary edema), will usually permit a reliable differentiation from the various types of pneumonitis. In cases of suspected pulmonary infarction in which pneumonia cannot be excluded with reasonable certainty it is probably preferable to include in the treatment the administration of antibiotics.

Serial electrocardiograms and serial determinations of the serum glutamic-oxalacetic acid transaminase level (SGOT) together with the other available clinical information usually permit the differentiation from myocardial infarction. A treatment program effective for both myocardial infarction and pulmonary embolism can be instituted when the differentiation between the two is not entirely clear since it fortunately incorporates most of the necessary treatment principles for either entity. Other diseases requiring the differentiation from pulmonary embolism in its many varied presenting patterns were discussed.

The routine use of low-pressure elastic stockings in all immobilized people or hospitalized patients appears to be an important effective preventive measure. Many pulmonary embolisms can be prevented by giving Dicumarol or similar drugs to all patients with chronic, severe, congestive failure or patients with rheumatic heart disease and auricular fibrillation which cannot be converted to sinus rhythm. Early ambulation was associated with the reduction in the incidence of thrombo-embolic disease from 53 to 18 per cent in one carefully studied series.

In the past decade two principles of treatment have evolved: (a) effective neutralization of the hypercoagulable state with anticoagulants, and (b) reduction of venous stasis by avoiding immobilization and by the use of elastic supports. Rest and elevation are important older principles still important in the management of phlebothrombosis. Prompt and adequate neutralization of the hypercoagulable state with anticoagulant therapy for at least 3 to 6 weeks is necessary.

BIBLIOGRAPHY

52. Griffin, G. D. J., Essex, H. E., and Mann, F. C.: Internat. Abstr. Surg., 1951, **92**, 313; in Surg., Gynec. & Obst., April 1951.
53. Olwin, J. H.: J.A.M.A., 1956, **160**, 1101.
54. Feissly, R.: See Koller and Merz, [29] p. 391.
55. Rehn, E., and Halse, T.: Deutsche med. Wchnschr., 1949, **74**, 1552; rev., Surg., Gynec. & Obst., 1950, **91**, 89.
56. Leithauser, D. J., Saraf, L., Smyka, S., and Sheridan, M.: J.A.M.A., 1951, **147**, 300.
57. Barker, N. W.: Personal communication (May 1957).
58. Donaldson, G. A.: Personal communication (May 1957).
59. Wilkins, R. W., Mixter, G., Jr., Stanton, J. R., and Litter, J.: New England J. Med., 1952, **246**, 36.
60. Wilkins, R. W., and Stanton, J. R.: Ibid., 1953, **248**, 1087.
61. Stinchfield, F. E., Sankaran, B., and Samilson, R.: J. Bone & Joint Surg., 1956, **38**, 270.
62. Shapiro, S.: S. Clin. North America, 1956, **36**, 469.
63. Ochsner, A.: Rocky Mountain M. J., 1954, **51**, 1059; abstracted, J.A.M.A., 1955, **157**, 1162.
64. Ware, A. G., and Stragnell, R.: Ann. Int. Med., 1957, **46**, 450.
65. Foley, W. T., McDevitt, E., Symons, C., and Wright, I. S.: A.M.A. Arch. Int. Med., 1955, **95**, 497; abstracted, J.A.M.A., 1955, **158**, 696.
66. Bramble and Capone: See Koller and Merz,[29] p. 350.
67. Estes, J. E.: Postgrad. Med., 1957, **22**, 323.

President's Page

ON MEETING ADVERSE CRITICISM

In bygone days when an understanding of disease was even more limited than today, treatment was largely empirical. There was little of news value in medical science or in its accomplishments. With the astonishing advances in the past 20 years this picture has changed. Today news about medicine appears almost daily in newspapers and in many magazines. Because of the problems which center about the cost of medical care, the physician and his medical society are very much in the news, and will continue to be until some workable solution to this problem is found.

Few subjects, few individuals, or few groups can continue in the news without sooner or later becoming a center of controversy. While both favorable and unfavorable criticism develops, the latter usually dominates the discussion. Approval of what is said or done is often disposed of as a single news item. Since the problems raised by the increasing costs of medical care concern a field where adequate experience is lacking, discussion as to how to provide adequate medical care for the entire population at a cost each individual can afford will not end soon. In such discussions it is inevitable that both the physician and his society will be adversely criticized and possibly accused of many things which are repugnant to him. How should he react?

Whenever a physician or his society is criticized adversely, he should carefully examine the criticism to determine whether it is justified in whole or in part. If it is justified, he should move promptly to correct that situation. If the criticism is unjust, it is well to remember that it has probably arisen from inadequate information or because of a different point of view, rarely because of prejudice. Whether an attempt should be made to supply correct information and stimulate further controversy or ignore the matter will depend on the particular circumstances.

Few in or out of the medical profession like to be criticized adversely, particularly when they are performing their principal duties creditably. Over a long period of time a physician will receive credit and blame where neither is justly due. In my experience the undeserved credit exceeds the blame. Under existing conditions physicians are going to be adversely criticized, so each of us may as well get used to this idea.

A philosophical view of such criticism has much to commend it. It serves no useful purpose either to become angry or to feel hurt by unjust criticism. Neither reaction alters the situation or helps in combating it. Either reaction may divert the physician from his principal reason for existence, the care of his patient. Anyone who must assume the responsibility for life and health should not allow himself to be upset by any criticism.

> ". . . never yet
> Was noble man but made ignoble talk.
> He makes no friend who never made a foe."
> —Tennyson

Perhaps a rereading of Sir William Osler's "Aequinimitas" might benefit all of us.

W. LeRoy Dunn

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Editorials

THE FEDERAL AVIATION AGENCY MEDICAL PROGRAM

Public Safety—its promotion, development, and preservation—is the prime concern of the Federal Aviation Agency as defined by the Federal Aviation Act of 1958 and directed by Administrator E. R. Quesada. This consideration outranks all others, and is the touchstone by which all projects and programs are tested.

The FAA medical program is one of the basic elements of the structure being erected to accomplish this mission and now nearing completion. It comprises three general areas of activity. First is the assessment of the physical and mental fitness of applicants for airman medical certificates in order to determine their ability to perform the duties of airmen safely. Second, though less explicit, is the medical implication of the Agency mission to promote safety through regulations governing the design, construction

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and performance of aircraft and their components. Since the capacities and limitations of the human mind and body are important factors in this, medical advice and research are needed in many of the problems. Finally, the tasks of many FAA employees, particularly those concerned with air-traffic control, are of such a nature as to require special attention to working conditions, hours of employment, and the like—problems which call for attention of experts in industrial medicine and allied fields. Responsibility for these functions has been assigned to the Office of the Civil Air Surgeon in the new Agency.

Determining whether individual airmen are physically able to perform their duties is a complex task involving administrative, clinical and research medicine. Appropriate standards defining the requisite degree of physical fitness for various duties must be set; airmen must be examined and their fitness certified in accordance with these standards; the adequacy of the standards must be reviewed and evaluated in terms of safety in observed airman performance; standards must be modified or new standards set in accordance with this evaluation. The process is a never-ending spiral which will terminate only when medical knowledge itself ceases to expand.

As a result of this process have recently come several proposals for changes in the regulations governing standards of physical fitness for airmen. The first was adopted December 30, 1958 and will take effect July 1, 1959. It is a rule that applicants for the first-class medical certificate (required semi-annually of all airline transport pilots) who are between 35 and 40 years of age, on the first examination following 35, shall demonstrate by electrocardiographic examination an absence of myocardial infarction. In addition, all applicants 40 years of age or over shall demonstrate annually by electrocardiographic examination an absence of myocardial infarction.

A second proposed change in regulations was published by the Administrator on March 12, 1959 and is undergoing review and comment by all persons affected or otherwise interested. It provides that certain specified conditions are disqualifying for any class of medical certificate. (Class 1 is required of airline transport pilots, class 2 for other commercial pilots, and class 3 for private and student pilots.) These conditions include diabetes mellitus requiring insulin or other hypoglycemic drugs for control; an established history or diagnosis of myocardial infarction or angina pectoris; other evidence of coronary artery heart disease; an established diagnosis of a past or present psychotic disorder; a psychoneurotic disorder which is or has been incapacitating; character and behavior disorders which have prevented good adjustment with particular reference to antisocial tendencies, chronic alcoholism or drug addiction; and a history of epilepsy or of other disturbances of consciousness which are due to unexplained causes or to causes other than an isolated episode associated with acute injury.

Another problem, still under study by the Office of the Civil Air Surgeon, is the question of whether there should be a specific upper age limit for certain categories of airmen, particularly airline captains. This is a complex and difficult subject involving both medical and economic factors. It depends upon the degree to which chronologic age is correlated with the physiologic age of the body and of its various systems, as well as on the relation of these variables to safety. In order to establish a medical standard of this kind in the field of aviation safety it is necessary either to have a valid basis for precise medical evaluation or, when the current state of the art does not furnish such knowledge, to provide a margin of safety reflecting the risk of inexact evaluation. Thus an arbitrary upper age limit may be in the interest of public safety even though the critical age cannot be scientifically determined.

In spite of some imperfections and faults the physical standards for airmen have been set as fairly as possible in the light of current medical knowledge and practice. They are being continually adjusted and improved as pertinent new knowledge comes to light. They are made as flexible as possible, with ample provision for review and reconsideration, in order that due allowance may be made for the circumstances of each individual case. But they should not and must not be ignored entirely. It is true that a man well recovered from myocardial infarction may be presumed to have an excellent prognosis, but there is a likelihood of recurrence, although it is difficult to evaluate precisely. A diabetic who has never had a reaction to insulin always may develop one. Or a "cured" paranoid schizophrenic may appear well adjusted but decide that his employer "does not like him." It is an increasingly frequent practice for doctors, including specialists of high reputation, to write letters on behalf of pilots stating that in spite of diagnoses such as those just mentioned, they should be permitted to fly, even in command of large commercial aircraft. When the licensing authority must deny the application such letters lead to disappointment, hard feelings, and sometimes expensive litigation. This effectively counteracts any beneficial effects of encouraging the patient in the first place.

The foregoing considerations make it imperative that physicians give some thought to the wisdom of casually reassuring patients that they can return to occupations such as flying. It may be far better to inquire what regulations and standards of physical fitness may apply. He can then lay the facts of the particular case before the appropriate licensing authority and leave the decision to it. In this way the patient is less apt to be disappointed and upset, and in the long run he may be better served and public safety less endangered.

J. E. SMITH, M.D.
Acting Civil Air Surgeon

A SALUTE TO THE APOTHECARY*

Sometimes we take our best friends for granted and forget how much they do for us. We have been really derelict in failing to give credit to one group that we could not do without. The registered pharmacist who fills our Rx for our patients is today a vital factor in the process of treating sick people. Without him or her (there are a few distaff pharmacists) we would be helpless in this day of thousands of preparations which the profession uses in its day-by-day activities.

If any physician attempted to stock all the drugs he prescribes he would carry an inventory of many thousands and need a good-sized room to store them in. The physician's black bag is now a small carrying case holding a few necessary diagnostic instruments and a few emergency drugs, usually in ampules. The prescription blank has replaced the many pills of many colors, usually all alike as to contents.

We usually do not write too many Rx's to be concocted. We usually write a name and a size and if it is really new the name of the drug house that makes it. Although most of the time today's apothecary does not weigh or measure ingredients, he must be alert and constantly on the lookout for mistakes that we might make and he must double check himself, because these modern drugs are powerful and the slightest mistake that could lead to an overdose could lead to a fatality.

Then there are so many of these new drugs that have similar names but are completely different in action that a wide knowledge of actions and dosages is needed to provide the necessary double check that must be given to every prescription filled.

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* EDITOR'S NOTE: This editorial has been adapted by permission from one written by the Editor of the *Weekly Bulletin of the Jackson County Medical Society*, Kansas City, Missouri, in the January 24, 1959 issue. Since the District of Columbia Pharmaceutical Association is holding its Annual Convention in Atlantic City, New Jersey, June 24–26, this seems an appropriate time to extend our good wishes to the District pharmacists and to echo Dr. Robinson's salute to all apothecaries with a hearty "Amen."

Our modern-day pharmacist is an educated man carrying in his head thousands of facts that must be put into effect at a moment's notice. He is not a puller-off-a-shelf of a bottle from which he pours 10, 20 or 50 tablets. Pharmacists can do their job of protecting our patients for us only when they know all there is to know about all the thousands of requests for drugs that we send them each day, week, month and year of their lives and ours.

The pharmacist is a professional man with his own code of ethics self-imposed. He will help us provide improved care and treatment to sick folks because he will be bound to us with a tie of coöperation that we cannot afford to overlook. A long overdue salute to our very important co-workers, the apothecaries, whom we have too long taken for granted.

G. Wilse Robinson, Jr., M.D.
Editor, Weekly Bulletin of the
Jackson County Medical Society

NEED FOR POLIOMYELITIS VACCINATION

It is estimated by The National Foundation (formerly The National Foundation for Infantile Paralysis) that 98 million Americans have as yet not received a single injection of Salk vaccine. This is a majority of the total population of the United States. The situation is comparable in this community and may be responsible for unnecessary recurrence of polio unless our people avail themselves of this protective vaccine now.

Every means to encourage people to be vaccinated against polio is being made. However, it is necessary to intensify all efforts throughout the Nation if we are to avoid a repetition of last summer, during which paralytic polio increased for the first time in 4 years. While this community escaped an epidemic, there were several areas in the country where epidemics did occur.

In the years from 1950 through 1954, the period just before the vaccine became available, there was an annual average of almost 39,000 polio cases reported in the United States. In 1955, the year the vaccine went into use, the number of reported cases dropped to about 29,000. By the end of 1957, the annual total was below 6,000. In 1958, the trend downward was reversed and the number of reported cases climbed back above the 6,000 mark.

What was more significant and alarming was that the number of paralytic cases was up 44 per cent over 1957, the impact being concentrated heavily among the unvaccinated. It may be difficult to determine just how much of the decline in cases since 1955 is due to immunization. The vaccine now on hand is the only proven, effective protection available to the public.

When the Salk vaccine was in short supply there were anxious demands made on the manufacturers. Now, millions of preventive doses are accumulating in the storerooms of the several pharmaceutical companies and on the shelves of the drug outlets. This vaccine is both expensive and perishable and we must not permit apathy or indifference to prevail when we are at the crossroads as to the possibility of eliminating paralyzing poliomyelitis. The danger we face today—neglecting the possibility of conquering a preventable disease—is unthinkable in a well-informed society. The task is formidable and much remains to be done. To inoculate an entire community requires an aggressive and continuing effort. The uninformed, the complacent, and the hard-to-reach groups must be convinced that the vaccine is vital to the well-being of the entire community.

Since the introduction of Salk vaccine the highest rates of paralytic polio have occurred in children under 5 years of age, and emphasis must continue to be on immunizing infants and young children. The second highest rates of paralytic polio per 100,000 population have occurred in children 5 to 9 years of age. While the younger age groups are at greater risk, and should be protected first, the evidence from the recent survey in Washington revealed the fact that many thousands in all age groups have not yet received any vaccine. Older people are susceptible and must also be protected. The figures show a greater lag in groups for immunization as the age increases. The fact is evident that all age groups should receive the benefit of the vaccine.

The total number of cases reported in the District of Columbia for each of the past 5 years are as follows:

1958	10	(8 paralytic)
1957	76	(67 paralytic)
1956	11	(7 paralytic)
1955	53	(26 paralytic)
1954	51	(35 paralytic)

The range in age was from less than a year to more than 50. The years 1957, 1955 and 1954 are considered epidemic years, and our aim is to prevent another occurring in this city. To do this it is necessary for every physician responsible for the health of people in this area to campaign assiduously and convincingly until vaccination is complete and to continue the leadership for as long as it takes to conquer this preventable disease. The profession may count on the coöperation of the thinking leadership in the community, since this is a task of such proportions that help from every source must be utilized.

Communicable disease control demands less physician time than formerly. However, it is worth noting that 1 in 12 deaths in the United States is related to some type of infectious process, which would include poliomyelitis. The total number of deaths related to infectious processes is approximately 150,000 per year in this country. It is estimated that 1,500,000 cases of communicable diseases involving at least 1 day of illness occur annually. In the neighborhood of 100 million school days, and industrial absenteeism equivalent to 2 billion dollars in wages are lost each year because of communicable diseases. To prevent, as much as possible, is our challenge.

JOHN R. PATE, M.D.
Chief, Bureau of Disease Control,
Department of Public Health,
Government of the District of Columbia

TRANSPORTATION OF PATIENTS TO VA HOSPITALS

The Veterans Administration can pay for ambulance service or other transportation of patients to its hospitals only when prior authorization has been given.

In medical emergencies, the private physician who telephones a VA hospital to request emergency admission of a veteran may secure the travel authorization from the hospital by telephone at the same time.

The physician requesting the emergency admission should tell the hospital whether it is for an illness or injury that has been rated service-connected, and if it is not, whether the veteran can afford to pay for travel to the hospital.

Veterans admitted to VA hospitals for treatment of service-connected conditions are entitled to necessary travel to and from the hospital at Government expense, provided prior travel authorization is obtained from the hospital.

Veterans admitted to VA hospitals for treatment of nonservice-connected conditions are entitled to this travel at Government expense only if they affirm under oath that they cannot afford to pay the cost of the travel and if prior travel authorization from the hospital has been obtained.

AMA COUNCIL SUPPORTS ADDITIONAL FACILITIES FOR BASIC MEDICAL SCIENCE EDUCATION*

The 1956-1957 Annual Report on Medical Education in the United States and Canada[1] included a statement on the future need for physicians which had been prepared by the Association of American Medical Colleges. The Council on Medical Education and Hospitals[2] has previously indicated the existence of the challenges in this field presented by the increasing population, rapid accumulation of scientific knowledge applicable to medicine, and the changing social and economic facets of the American scene. The Council on Medical Education and Hospitals as is indicated in the following statement supports its own previous comments and those of the Association of American Medical Colleges as to the desirability of developing additional facilities for medical education.

Through the medium of its various activities and particularly in its Annual Report on Medical Education in the United States and Canada, the Council on Medical Education and Hospitals of the American Medical Association has endeavored to present and interpret the changing scene in medical education to the profession. With the support of the medical profession and in coöperation with the Association of American Medical Colleges, the American College of Surgeons, the American College of Physicians, the various specialty boards, the Joint Commission on Accreditation of Hospitals, the American Hospital Association, and other organizations, constant and sincere efforts have been made to assist in the advancement of medical education in keeping with the knowledge, trends, and needs of the period.

In recent years the position of the American Medical Association in regard to present and future needs in medical education has frequently been misinterpreted by many individuals and by some organizations through the misuse of statistical data. Statistical information has at times been taken out of context and interpreted to the effect that the official position of the American Medical Association is that there is no need for increased numbers of physicians. No such official position has ever been enunciated. American medicine, as was indicated earlier in this report in reference to Dr. Allman's comments at the 54th Congress on Medical Education and Licensure, fully recognizes the needs being brought about by the increasing population, social and economic trends, and the changing dimensions of medical knowledge and its application. The primary concern of American medicine is that these needs be carefully analyzed and that they be met as a result of sound developments based on the best possible knowledge.

The Council on Medical Education and Hospitals recognizes that the physician-population ratios, on which most current projections of medical personnel have been made, have remained relatively constant for a number of years. It is difficult, however, in the rapidly changing modern scene, to determine whether this relative ratio of physicians per unit of population might be reduced or should be augmented to meet the medical care, teaching, and research challenges of the future. On the other hand, the increasing population together with the various other facets of the shifting pattern obviously indicate the need for constantly increasing the number of physicians. This necessitates consideration on the part of existing medical schools as to possible augmentation of the number of students admitted as well as the development of new facilities. Furthermore, the Council believes it is a logical function and responsibility of American medicine to encourage institutions of higher education where medical education has not been undertaken in the past to give serious consideration to the development of opportunities in this field if all other factors make it appear desirable to do so. The Council on Medical Education and Hospitals sincerely believes it is a responsibility of the American Medical Association to take effective leadership in presenting these increased needs as objectively as possible.

The Council on Medical Education and Hospitals and the Association of American Medical Colleges, independently and through the Liaison Committee on Medical Education, are on record in encouraging the consideration and creation of both 4-year programs of medical education and of 2-year programs of basic medical science, where institutions of higher education offer the setting which would make such developments mutually advantageous and desirable.

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* Reprinted from J.A.M.A., 1958, **168**, 1470.

[1] Medical Education in the United States and Canada, Council on Medical Education and Hospitals. J.A.M.A., 1957, **165**, 1402.

[2] Ibid., 1955, **159**, 570.

DOCTORS AND LAWYERS

JAMES A. GANNON, M.D., F.A.C.S.
Washington

From the time I was a student intern testifying on police court cases, where participants of brawls who had been bruised, fractured, cut or shot were "telling it to the judge," until the present the atmosphere of the courts has fascinated me. Long association during the 14 years when I was testifying on city hospital mental cases and present in court for one full day each week gave me an opportunity to familiarize myself with procedures, allowed me to study judges and lawyers and juries, and to conduct myself with proper courtroom decorum. (This was when I was chief of staff at Gallinger Hospital.) I learned that a medical witness is called for the purpose of truthfully enlightening the jury about matters with which he is familiar and they are not; that partisan testimony dilutes the value of his testimony; that he should answer questions on direct examination by "Yes" or "No" if possible; and that he should not volunteer information. The less he says on direct examination, the shorter will be the cross-examination by the opposing attorney. Garrulousness on the part of the witness supplies ammunition for the other side. The medical witness should conduct himself with the dignity which befits the great profession he represents, and he should prepare his testimony by consulting textbooks to insure that it is correct. When he is being qualified as an expert, a better impression is made if his attorney asks him if it is not true that he is connected with this or that hospital, or that he had special experience in cases before the bar, rather than making these statements himself and risking the impression on the jury of bragging.

The medical witness should retain his good humor and not argue with the opposing lawyer. It must be assumed that he has stated facts which are irrefutable and do not need argument to confirm them. He must be respectful to the judge and all attorneys in the case. Abuse by the opposition lawyer is to his advantage because the jury is always in favor of the under dog. He must not claim knowledge that he does not have. A most effective way to secure the respect of the jury is to use the words, "I do not know." This has the effect of establishing in their minds that he is honest and human. He must resist opportunity for a humorous reply to a question. Court trials are serious affairs in which levity has no place. If he is well prepared, modest, direct and truthful, his appearance in court will not be an ordeal.

I recall a case against an automobile insurance company in which I was asked to appear for the company. The plaintiff claimed an orthopedic injury which I did not think was present. I knew that I had been preceded on the stand by an eminent orthopedic surgeon whose opinion of the case differed from mine. When the plaintiff's lawyer took over, he asked me at once if I was an orthopedic specialist. I said that I was not. "Then we will consider you just a general surgeon. Would that be proper?" I answered that it would not, because I was a general surgeon and not just an orthopedic specialist. I did not mean this to be funny but the jury laughed and the lawyer's ears became red.

Cases Involving Bodily Injury

Through the years I have testified in court many times, usually for the defendant in cases involving bodily injury. Sometime before each trial the plaintiff calls at my offices and I learn whether any previous injury had occurred, the date and time of the present injury, the immediate treatment, the length of disability, and if the claimant still suffers from the effects of the injury. My examination includes inquiry about any scars or deformities, the age, blood pressure, weight, and any deviation from the normal. Then particular attention is given to the injured part of the body. I file a report of my findings and, of course, keep a copy. I consider myself a medical judge, and describe the case as I see it. If permanent disability is present, I so state. I do not "spare the horses." If I think the patient is a malingerer, I state that. The report must be truthful and unbiased, because, months later, I may have to appear in court and defend my position under oath. Many cases have been settled or tried in court because of the contents of my reports.

I wrote a paper once advising younger doctors on how to conduct themselves on the witness stand. Among other suggestions I advised them that they could afford to be mistaken but they should never be in doubt. Many times since then lawyers have referred to my giving this advice in an effort to prove that I lacked integrity. Of course, the expression was not original, and I used it to mean that they must believe in what they say and say it with conviction. The world was at one time believed to be flat. This proved to be a mistake, but before it was found to be round most people described it to be flat. This was an honest belief, and therefore not in doubt.

I have found lawyers to be honest and fair in relations with me as a witness, with occasional exceptions. There have been times when lawyers have attempted to "put words into my mouth," when they insinuated that my opinions were being bought, when finger-pointing and loud voices accompanied questions, and when mannerisms and carefully framed questions insinuated that I was a perjurer. This kind of abuse was confined, however, to the lesser members of the bar who used these tactics because of desperate efforts to save a lost cause. Usually, when the attorney feels that he is losing his case, he asks how much I am being paid for my testimony. The reply I sometimes use is, "I am to be paid for the time and effort I have used to prepare to give the facts in court. I am not charging for the testimony."

When I am being sworn to tell the truth, etc., I usually say to myself: "I am to be questioned about my own profession, which I have studied all my life. The opposing counsel has tried to familiarize himself with information about these injuries for about two weeks. He has not mastered the basic principles involved and he will be unable to embarrass me." I then take the stand with self-confidence and poise, which makes the experience of testifying comfortable and satisfying.

Unusual Case of Nerve Injury

The telephone rang one afternoon and a young attorney introduced himself to me. He said that he had lost a case recently because of my testimony, and he would like to have me on his side in a case he was about to try. He proposed that his client call on me and if, after my examination, I thought that her injuries were serious, he would try the case. If I thought they were not, he would drop it. Later an attractive lady in her 40's called at my office. Eighteen months before she had visited a store to purchase some fence wire. The clerk led her across an alley to a lot on which the wire was stored. She could not find what she wanted, so they returned to the aperture through which they had entered. By this time a truck occupied the exit, and the helpers were rolling huge spools of wire on a trough into the lot. She placed her right foot on the side of the trough while a wire spool rolled past. As it came opposite to her foot, the end of the wire which protruded from the spool penetrated her stocking and skin just below her ankle on the top portion of her foot to the right of its center. She suffered little pain at the time, and she drove her car home. One week later she called on her doctor, who drained a few drops of pus which had accumulated in the puncture wound. Healing took place in a short time, but the outside of her foot began to ache. This continued, and when she walked she favored the inside of her foot. I examined her shoe and found that the sole of the right shoe was worn down in comparison with the left part of the sole. The puncture wound was inconspicuous, and the scar was about the diameter of the lead in a pencil. I asked her to remove her stockings and lie on the examining table. Testing the sensation with a sharp instrument, I found the entire outside of the foot below the scar was insensible (anesthetic). I then asked her to flex her toes (bend them forward). She tried but the toes extended (bent upward). This test was repeated several times, always with the same result. She was unable to flex her toes. This indicated to me that nerve injury had occurred.

I consulted a book in my library on injuries and diseases of the foot. My suspicion was confirmed by an illustration by the author, which showed a cross indicating the exact spot on the foot where my patient bore the scar. Below this were two small nerves which crossed at that point. One of the nerves controlled the muscles which flex the toes, and the other controlled the sensation of the outer, upper part of the foot. The wire which protruded from the giant spool had penetrated and severed these two nerves where they crossed. The nerves were too small and too deep to repair after 18 months. The foot would be further damaged by the cutting which would be necessary to reach them. The patient was permanently and dangerously injured—dangerously because cuts and bruises which could become infected might occur from injury which the patient would not know about because she had no sensation in the outer, upper part of the foot. The case was to be tried in 2 days in the Municipal Court, where the upper limit of money awarded by juries is $2,000. I advised my young attorney that it would be wise to transfer the case to a higher court, where he could win a substantial verdict. He consulted with his client and she elected to proceed with the trial in the Municipal Court.

I testified that the client was seriously and permanently injured, and by permission of the judge I placed her on a chair in front of the jury. Her stockings were removed and her feet placed on another chair. I asked her to flex her toes and, in attempting to do so, she extended them. This test was repeated several times. I then removed a large, straight pin from the lapel of my coat, sterilized it with a match and plunged it through a fold of the skin of her outer foot. I allowed it to remain. The client smiled through all this, and there was no movement of the foot or the body when the skin was penetrated by the pin. This demonstration convinced the jury that she was really hurt.

My young lawyer friend phoned me later that the jury had allowed his client $1,300.00. The foreman confided in the lawyer that it would have been more except for the fact that the case was tried in the Municipal Court. The jury reasoned that, if matters were really as unfavorable as I described, any sensible lawyer would try the case in a court which could award much more substantial damages. Their attitude was, "You can't fool us!"

The courts and the lawyers try to save the time of the medical witness. So his office is usually notified about one-half hour before he is expected to testify. This obviates the necessity for him to neglect his patients by waiting in the witness room while the trial is going on. Expert witnesses are seldom subpoenaed. Because of crowded court calendars, the exact day on which a trial can start is difficult to estimate. The doctor is usually requested to be ready to testify, say, at 2 o'clock next Tuesday, and to keep in touch with his office after that time for a message which will bring him directly to court. The doctor then is on call and all his activities are predicated on the possible message from court. His time in court may not be reached for several days, which is a source of uncertainty and tension which is unpleasant. Some cases are settled out of court immediately before the trial was to start. The attorney may forget to notify the doctor, and the uncertainty and tension may be prolonged for many days.

"NEUROSIS" AND MALINGERING

A frequent cause for law suits is a nervous disease called "neurosis." Other older and largely discarded names for the condition are "railroad spine" and "hysteria." The term "neurosis" is difficult to define. It consists of real suffering for the patient, with no organic changes in the body to explain the symptoms. It occurs in persons who crave the limelight and the sympathy and concern of their family and friends. When neurosis follows injury, the symptoms complained of by the patient are inversely proportional to the amount of injury received. Such a person has entertained a neurosis for some time previous to the injury, and, after injury occurs, the attention is concentrated on the injured part rather than the heart or the head or the area previously concentrated on. So injuries do not cause neuroses. They are already present. It follows that most people do not suffer from "traumatic neuroses"; only those who already have a neurosis are susceptible, and the trauma (or injury) directs the attention of the patient to the alleged injured part. During the days of almost exclusive railroad travel, most passengers who claimed injury after wrecks complained of injury to the lower back. Since X-ray examinations and other tests failed to discover any tissue change to account for the disability, the condition was designated "railroad spine."

The interval between the date the suit is entered on the court calendar and the actual trial can usually be calculated by months. During this time the "neurosis" patient repeats his story of the accident and his consequent sufferings many times to his sympathetic lawyer and is the recipient of the concern and attention of his friends and the solicitous and overzealous care of his physician. This exaggerates the seriousness of supposed injury in the patient's mind. The time of recovery to health of such a patient after the case is settled, either for or against him, depends upon how long he holds the limelight and the attention and consideration of his friends. The interesting fact is that he usually re-covers sooner or later without further treatment directed to the injured part.

The examining physician who can find no anatomic or physiologic reason for the complaining litigant has to decide between malingering and neurosis. The malingerer usually describes continued pain radiating to parts of the body where there is no continuity of nerve supply which would carry nerve impulses, and too much territory is covered. He may complain of deafness of the left ear from a bruise on his head. If I suspect malingering in such a case, I ask him to turn his back to me and place his index finger in his right (or good) ear and press hard. I then quickly and in a firm voice say, "Take it out." If he does so, his hearing is still present in his left ear.

If a painful area is described, I usually press it and complaint follows. I continue to converse with the patient and press other parts of the body; while his attention is concentrated on the conversation, I again press on the alleged painful area and there is no response indicating pain.

The "neurosis" suspect usually displays other suggestive signs of an abnormal nervous system. He may have areas of the skin which lack sensation, such as the outer part of the thigh or forearm. The pharynx (back of the open mouth) may be void of sensation, and a tongue blade may be tapped on its surface without resultant gagging or coughing. Again, the clean finger of the examiner may be applied to the conjunctiva (the outer covering of the eye) without the blinking or watering or complaint of pain which would be the result in a normal person.

The "neurosis" patient is not a malingerer, although exaggeration by litigation may be expected. He actually feels the pain he complains of and actually cannot use an extremity on which he is concentrating. I have seen atrophy (shrinking) of the muscles of an extremity from disuse between the time of injury and the trial. They fill out and expand to their normal shape after the case is settled, either for or against the plaintiff, and he commences to use the arm or leg again.

It is difficult to convince juries that there is no actual injury to the part complained of by the "neurosis" patient, and they sometimes award him disproportionate verdicts. The term "traumatic neurosis" should be abolished. It suggests that the neurosis was created by the injury, which it was not. The injury merely transferred a neurosis which was already present to a particular location in the body.

If a witness in a trial of any case where the defendant is insured against such a suit mentions the fact that an insurance company must pay any damages awarded, a mistrial is ordered in most jurisdictions. Everybody present, including the jurors, knows that the defendant is insured. This is one of the unexplained vagaries of legal procedure. In spite of the fact that verdicts for huge amounts of money to plaintiffs must be eventually paid by the public (including the jurors themselves) in increased premiums for insurance policies, verdicts continue to increase in size as time goes on. Many insurance companies consider it wiser to pay a thousand dollars or more out of court to known malingerers than to risk the insanely large verdicts of juries who disregard testimony and act on sympathetic impulse. They reason that, since a rich insurance company will pay the bill, no one can be hurt financially.

EFFECTS OF MALPRACTICE LITIGATION

Physicians are particularly vulnerable to suits for malpractice, and most of them carry $50,000 or more insurance against them. The cost of this insurance is outrageous and must be passed along to the patients by increasing professional fees. Because of unfavorable criticism in the magazines and newspapers, the public's attitude is not one of the confidence and trust which prevailed in the past. They demand perfect results, and in a hurry. Since the introduction of the "wonder" drugs, the doctor is expected to cure you in 48 hours. If he does not, you get another doctor. The doctor is beginning to regard each patient as a potential litigant, which does not augur well for good doctor-patient relationship. In desperate cases the doctor may fail to apply desperate measures which may be life-saving because of the possibility of a suit for malpractice.

Anybody can sue anybody for anything. He cannot always win, but he can cause unfavorable publicity, loss of time, worry, and loss of money for the person who is sued. There should be a provision in the law that the physician should be recompensed by the plaintiff if the jury should decide that

(*Continued on page 362*)

Cancer Page

SALIVARY GLAND TUMORS

Tumors of the major salivary glands are most often found in the parotid gland, presenting as a "lump at the angle of the jaw."

Benign mixed tumors are the most common of the salivary gland tumors. These are characteristically single, freely movable, and have a round smooth surface. The size varies, some of the long-standing tumors becoming very large. Few of these tumors cause any associated symptoms. When properly treated the patient is cured.

Occasionally the patient will have multiple tumors in the parotid region. Such a patient will give a history of having had a tumor "shelled out" some years earlier, and the masses represent continued growth of small bits of tumor left behind rather than a true recurrence. Had the original tumor been removed with an adequate margin of normal tissue, it is probable that a benign mixed tumor would not recur

Malignant mixed tumors arise *de novo* in the salivary gland and they are also thought to arise from long-standing benign tumors. In the latter instance there is a history of a rather sudden change in the growth rate of a quiescent tumor. These tumors as a general rule are larger than the benign ones and more frequently fixed to the surrounding tissues. With large tumors the skin may ulcerate. Associated pain and discomfort and seventh nerve paresis are not uncommon. The regional lymph nodes may be enlarged by metastases.

Approximately one-half of the patients with malignant tumors develop local recurrence. Many have multiple successive recurrences. Death may occur from local disease or from metastases.

Other tumors, benign or malignant, also occur in the salivary glands. In the early stages there are no reliable clinical signs of benignancy or malignancy, and such a tumor should be handled as a lump in the breast, that is, considered malignant until proved benign. A lump at the angle of the jaw warrants investigation at the earliest date, and should be handled by a surgeon thoroughly familiar with salivary gland tumors. Excision with adequate margins is a necessity as in any other tumor surgery. It is rare that the seventh nerve need be damaged or sacrificed, even with malignant tumors. When lymph-node metastases are present a neck dissection is in order.

SERVICES AVAILABLE TO CANCER PATIENTS

1. Free dressings, made by volunteers, are available to any cancer patient at home or in the hospital.
2. Free sickroom equipment, including such items as food blenders, hospital beds, suction machines, wheel chairs and other items may be procured from the gift and loan closet.
3. Homemakers to help keep the house clean, prepare simple meals, or care for children are available free to families who may need such emergency help until more permanent arrangements can be made.
4. Counseling service to discuss problems and suggest ways in which to solve them.
5. Financial assistance through the Cancer Aid Plan to eligible families to help meet the costs of hospitalization and treatment.
6. Medications and the cost of care in Nursing Homes, in limited amounts, to eligible residents in the District.

For further information on these and other services available to your patients, please call the American Cancer Society, District of Columbia Division, Inc., 810 18th Street, N.W., Executive 3-3690.

CORRESPONDENCE

Washington, D.C., March 18, 1959

To Mr. Wiprud:

May I warmly invite the coöperation of your State Medical Society in an International Health Study which this Subcommittee is conducting.

As you may know, the Senate has authorized a special review of the twofold problems of:

1. International medical research and
2. International medical assistance programs.

Already information compiled by our Subcommittee has been made available at hearings on Senate Joint Resolution 41. This is the Bill co-sponsored by Senator Lister Hill, myself and others for the purpose of establishing a National Institute for International Medical Research.

Wholly aside from that, or any other specific bill, it is the intention of this Subcommittee to compile the best judgment available on U. S.-foreign medical teamwork.

You will find enclosed the initial Committee Print under our Study.

Your State Medical Society could be of particular assistance to us if you could kindly advise as to the names of some of the leading physicians in your State who might readily come to mind, and who you think could provide expert judgment to us in answer to this question:

"What should the United States Government do to strengthen international collaboration toward the conquest of major killing and crippling diseases, such as cancer, cardiovascular ailments, neurological, mental disorders and the like?"

Already this Subcommittee has contacted a broad variety of expert sources—e.g., deans of medical schools throughout the country, editors of medical journals, committee chairmen of the AMA, executive secretaries of Nation-wide and world-wide societies, specializing in particular diseases or in problems of major organ-systems.

No doubt, however, there are in your State many additional individuals who, to your knowledge, can help illuminate some problem of research coöperation. If so, we would be happy to hear from you. We would be glad, too, to learn about any activities of your Society itself which might bear significantly upon our interest.

Of course, we are in close touch with the National Institutes of Health, the Veterans Administration, the National Science Foundation, as well as with intergovernmental organizations like WHO, etc.

I look forward to the pleasure of hearing from you.

With kindest wishes, I am,

Sincerely,
Hubert H. Humphrey
Chairman, United States Senate
Subcommittee on Reorganization
and International Organizations

Washington, D.C., March 31, 1959

The Honorable Hubert H. Humphrey
The United States Senate
Washington, D.C.

My dear Senator:

I am pleased to inform you that our Society will be glad to coöperate with you and your subcommittee in an International Health Study. It is the view of our organization that the more we contribute to the betterment of the health of the people of the world the better our relations will be with all nations.

You asked for the names of leading physicians who could provide expert judgment in answering the question in your communication. We are pleased to submit the following with an indication of the fields in which they are expert:

Dr. Thomas W. Mattingly (Heart)
Washington Hospital Center
Dr. James W. Watts (Neurological diseases)
1911 R Street, N. W.
Dr. Zigmond M. Lebensohn (Mental)
1712 Rhode Island Avenue, N. W.
Dr. J. Ross Veal (Vascular diseases)
1028 Connecticut Avenue, N. W.
Dr. Monroe J. Romansky (Infectious diseases)
George Washington University Hospital
Dr. Raymond T. Holden (Obstetrics and gynecology)
3111 16th Street, N. W.
Dr. Murray M. Copeland (Cancer research)
Georgetown University Hospital
Dr. Wallace M. Yater (Internal medicine)
1780 Massachusetts Avenue, N. W.
Dr. Ralph M. Caulk (Radiation)
Washington Hospital Center
Dr. W. LeRoy Dunn (Chest diseases)
1150 Connecticut Avenue, N. W.
Dr. Peter D. Comanduras (Foreign medical relief)
1710 M Street, N. W.

Incidentally, we have one physician who is heading a committee which canvasses the doctors in the District of Columbia for those who will forward to an individual physician abroad copies of his medical journals. This is particularly important in underdeveloped countries. You may be interested to know this man's name. He is Dr. Stanley J. Talpers, 1025 Vermont Avenue, N. W. He too may be of help to your subcommittee.

Again, let me assure you that you will have the full coöperation of our organization.

Very truly yours,
Theodore Wiprud
Secretary, The Medical Society of the
District of Columbia

On the Lighter Side

On May 1, 1959 the 1958–59 duckpin bowling season of the D. C. Medical-Dental Bowling League rolled to an exciting finish. The Suburban and Sibley ✱1 teams, who had been alternating between first and second place all season, finally had to rely on pinfall to decide the championship because of a tie in games won and lost. Suburban won first place with a 65 won and 31 lost record and a pinfall of 49,368. Sibley ✱1 with a 65–31 record had to be satisfied with second place because of their pinfall of 49,188. Children's, Columbia and Casualty teams finished the season in third, fourth and fifth places, respectively.

The D. C. Medical-Dental Bowling Sweepstakes were held on May 8, and the following winners cashed in on the big money. Dr. Maurice van Kinsbergen, of the Sibley ✱2 team, won high set of 381 with a 12 pin handicap. Second high set money went to Dr. Raymond C. Kirchner of the same team who rolled a 374 set with a 63 pin handicap. Third high set was won by Dr. Gregory T. Henesy of the Emergency team with a 368 set, of which 42 were the additional pins. Dr. Alan S. Weisberg, of the Delta dental team, collected the prize money for the first high scratch game of 129 with a 14 pin handicap. Second high scratch game of 127–6 pin handicap went to Dr. Elliott Rutstein of the Providence team.

Team Standings

PLACE	TEAM	HG	HS	WON	LOST	PIN-FALL
1	Suburban	634	1723	65	31	49,368
2	Sibley ✱1	595	1609	65	31	49,188
3	Children's	572	1622	60	36	48,409
4	Columbia	555	1578	57	39	46,986
5	Casualty	586	1700	56	40	48,977
6	Sibley ✱2	585	1625	56	40	47,336
7	Alpha	541	1504	49	47	45,099
8	Doctors	566	1514	49	47	44,316
9	Providence	554	1545	45	51	46,184
10	Emergency	542	1528	45	51	44,992
11	Garfield	545	1547	44	52	45,977
12	Gamma	531	1480	40	56	44,680
13	Delta	515	1488	40	56	43,413
14	Beta	568	1522	36	60	46,230
15	Zeta	503	1443	36	57	36,532
16	Epsilon	486	1396	22	71	26,260

The Annual Bowling Banquet was held at the Brook Farm Restaurant on Thursday, May 14, 1959. The members of the first 5 winning teams received valuable gift certificates redeemable at The Sportsman store on Wisconsin Avenue, Bethesda, Md. Other prize-winners were for the high bowling averages of the teams and the League, high bowling games, high sets, high strikes and high spares.

The finals and team standings are as follows:

Individual Records

TEAM	G	SP	ST	HG	HS	AVG.
Alpha						
Kogan	87	107	29	138	344	96
Bouchard	90	113	24	135	338	96
Greeves	87	80	23	122	306	90
Cercell	87	108	22	123	323	93
Taylor	75	97	29	121	314	95
Beta						
Castro	84	104	34	122	330	96
Douglas	90	123	18	120	326	96
Hopkins	90	142	28	137	342	99
Hollis	72	105	28	133	329	99
Berman	59	82	20	121	319	97
Hill	3	4	2	106	308	102
Casualty						
Dibbs	93	63	16	125	289	82
Price	93	170	43	157	369	104
Eig	92	176	48	152	375	107
Duffy	89	209	33	154	391	109
Hageage	84	168	37	136	374	107
Clark	9	12	5	125	318	100
Twigg	3	4	1	104	286	95
Children's						
Bacon	89	87	27	123	321	93
Kay	87	155	40	150	368	102
MacDonald	87	183	48	145	380	108
Resta	84	154	39	147	369	106
Kessler	81	127	36	131	343	101
Cook	30	39	10	132	313	94
Columbia						
Kadan	86	166	23	124	354	103
C. Reeves	91	151	36	131	368	102
McDonald	80	116	24	133	341	97
Hodge	80	100	34	134	363	98
Connolly	74	89	18	118	310	93
Scalfon	63	56	21	126	314	91
G. Reeves	3	4	1	93	265	78

Individual Records—Continued

TEAM	G	SP	ST	HG	HS	AVG.
Delta						
Rabin	83	86	19	120	304	90
Bowie	86	83	16	124	308	90
Conlon	74	61	10	111	286	84
Keaveny	72	61	22	118	312	91
Crowley	33	27	4	109	283	88
Molnick	30	52	16	140	356	104
Weisberg	21	25	10	120	322	98
Doctors						
Perkins	86	109	27	130	329	96
Thomas	86	118	30	148	356	97
Carter	79	77	25	128	313	90
Golden	75	108	23	149	325	95
Brown	68	103	22	132	347	99
Gruver	55	69	14	124	322	93
Lloyd	7	7	2	114	288	99
Silverman	6	5	1	100	283	94
Emergency						
Brawner	89	129	38	145	355	99
Henesy	87	128	26	137	359	98
Schumacher	77	94	20	126	321	95
Hawfield	76	120	27	150	357	100
Young	60	63	23	124	308	91
P. Dorman	27	21	3	108	286	87
McClintock	3	1	2	90	266	88
Gamma						
Salcetti	81	99	22	148	323	93
Ferrigno	87	136	27	134	337	98
Fleming	81	109	24	118	329	95
Mahar	80	85	20	116	302	89
LeBlanc	66	81	14	137	321	95
Cobb	6	11	0	104	291	92
Rust	6	5	1	103	247	82
Reynolds	3	2	1	108	269	89
Garfield						
Klein	86	78	23	112	296	88
Cushard	90	141	40	165	358	102
Cosimano	88	111	21	128	307	95
Oberman	86	126	28	131	348	98
Peizer	54	84	19	124	326	98
Grubb	23	18	9	117	301	93
Richtmeyer	21	38	5	125	331	100
Providence						
Cashman	87	91	24	119	334	92
Rutstein	90	179	40	139	357	106
Heiges	84	94	27	133	313	92
Crain	81	143	34	134	345	104
Providence (cont'd)						
Kane	63	51	17	105	290	86
O'Keeffe	9	5	0	91	229	74
Franco	3	0	1	88	260	86
Sibley #1						
Belair	84	123	27	123	335	98
Baiers	93	226	49	162	383	112
Richardson	90	150	33	135	347	100
Finnegan	90	124	21	138	347	98
Ball	87	134	46	145	356	104
Schilke	21	21	3	114	304	92
Sibley #2						
McLain	87	127	29	133	348	99
Van K	93	195	40	144	365	108
Hand	85	134	33	138	334	100
Kirchner	78	81	13	124	329	91
Newman	41	55	8	123	319	95
Morse	28	39	13	133	337	99
Weingarten	12	8	1	106	265	83
Barnhard	9	10	2	107	307	96
Katzman	3	5	0	98	252	84
Suburban						
Betz	93	199	40	141	354	108
Ottman	91	153	30	145	331	101
Andrews	89	115	29	127	331	97
Meyer	84	182	52	171	413	110
Porton	61	92	23	129	338	97
Gable	36	48	13	124	333	97
Zeta						
Brown	72	54	12	109	302	87
Keelan	85	85	20	127	317	93
Mulreany	72	81	17	113	313	92
Markwood	66	80	21	120	343	95
Holahan	59	47	14	120	297	84
Johnson	12	20	4	126	313	97
Substitutes						
Woodland	72	92	14	120	317	92
Stanton	33	17	6	112	276	82
Levin	23	50	13	128	358	109
Keren	21	13	4	102	285	87
Kirkpatrick	21	22	4	106	294	92
Coombs	15	14	4	114	304	94
Wolf	12	17	4	107	297	97
Billingsley	3	4	0	102	282	94

J. EARL KADAN, M.D.

News and Personals

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia met in regular session, April 27, 1959, with Dr. Preston A. McLendon, Chairman, presiding. To the request of Senator Hubert H. Humphrey, of Minnesota, that the Society coöperate in an international health study, the Board gave its formal approval. (See Correspondence in this issue of the ANNALS, page 350.)

Dr. Lester R. Dragstedt, President of the National Society for Medical Research, requested financial support for its work in behalf of animal research, and the Board voted to contribute $100 as it had done in 1958.

A contribution of $100 to each of three Student AMA chapters in Washington, at George Washington, Georgetown and Howard Universities, was voted to help defray the cost of sending their delegates to the annual S.A.M.A. convention in May. This aid has been extended in previous years.

The Board scheduled a Special Business Meeting of the Society for Thursday, June 25, 1959, at 8 p.m., in the Society's auditorium. Under discussion will be the Unit Value Scale, which has been completed and is ready for submission to the Board and to the membership by the Committee on Medical Care.

President Dunn informed the Board that at the request of Dr. Ernest B. Howard, Assistant Executive Vice President of the AMA, he had designated 3 members of the Society to represent the Association at the Conference on World Health, sponsored by the National Citizens' Committee for WHO, which was held in Washington, May 7-9. The designees were Drs. William P. Herbst, Herbert P. Ramsey and R. Lomax Wells.

President Dunn appointed Dr. Jack Kleh, Chairman of the Committee on Aging, and Dr. Clifton R. Gruver, Chairman of the Committee on Public Health, to attend the meetings of the Joint Council to Improve the Health Care of the Aged, June 12 and 13.

These appointments were approved by the Board as were the following:

Dr. Stafford W. Hawken, to succeed Dr. Robert H. Barter as Vice Chairman of the Cancer Morbidity Review Committee.

Drs. Otis R. Farley, Josephine E. Renshaw and Elbert T. Phelps, to the Committee on Aging.

Dr. Edward E. Ferguson (for a 2-year term) and Dr. Crenshaw D. Briggs (for a 1-year term) to the Grievance Committee, the latter to succeed Dr. James J. McFarland, Jr.

Approval was given a motion that Major General Oliver K. Niess, Surgeon General of the Air Force, and Major General Leonard D. Heaton, Surgeon General of the Army, be proposed for Honorary membership to the Society.

The Second Annual Medical Staff Dinner of the Washington Hospital Center was held, May 2, 1959, at the Statler-Hilton Hotel. Four staff members were cited for serving more than 30 years each with the hospitals that merged a year ago to form the new Center. They were Drs. John H. Lyons, Daniel B. Moffett, John W. Burke, and E. Clarence Rice, each one of whom received a gold-headed cane in recognition of his long service.

Dr. Lyons, formerly Chief of Surgery at Emergency Hospital, is Professor of Clinical Surgery at George Washington University School of Medicine.

Dr. Moffett, Emeritus Chief of the Episcopal Hospital Ear, Nose and Throat Department, was Chief of Staff at both Episcopal and Emergency Hospitals.

Dr. Burke, one of the chief surgeons at Episcopal Hospital, was formerly Professor of Ophthalmology at Georgetown University School of Medicine.

Dr. Rice, who was director of laboratories at Garfield Hospital and until recently director of laboratories at Children's Hospital, practices internal medicine at the Center.

FOUR WHC STAFF DOCTORS HONORED

Sporting their new, gold-headed canes are (left to right): DRS. E. CLARENCE RICE, DANIEL B. MOFFETT, JOHN H. LYONS, AND JOHN W. BURKE. Acquisition of the canes was a feature of the WASHINGTON HOSPITAL CENTER STAFF DINNER, May 2.

The awarding of the gold-headed canes is a special feature of the staff dinner which began as an annual event at old Garfield Hospital.

Awards to the house staff through competitive essays are also becoming traditional. Dr. Leon Schechterman, third-year resident in pathology, won the first prize for his essay on a rare type of cancer known as cloacogenic carcinoma. Dr. D. Parkinson, fourth-year resident in pathology, was awarded second prize, and the third award went to Dr. Randi V. Rosvoll, first-year resident in pathology.

Dr. Ludwig G. Lederer was installed as President of the **Aerospace Medical Association** at its Annual Meeting in Los Angeles at the end of April.

This Association was established as the Aero Medical Association in 1929 but the name was changed to Aerospace in anticipation of man's intended venture into outer space. The Society has some 2,500 members.

Dr. Lederer is Medical Director of Capital Airlines. He has been authorized to select a Washington site for the headquarters of the Association, which now has offices in Marion, Ohio.

Dr. William J. Kennard was elected Secretary-Treasurer; he will be Executive Director of the new headquarters staff. Dr. Kennard is a retired Air Force medical officer, with the rank of Brigadier General, and was formerly Air Surgeon of the Military Air Transport Command.

Both Drs. Lederer and Kennard are Active members of the District Medical Society.

Captain Oran W. Chenault, Chief of Aviation Medicine in the Navy's Bureau of Medicine and Surgery, was elected First Vice President. Major General Oliver K. Niess, Surgeon General of the Air Force, was elected to the Executive Council.

Dr. Henry P. Laughlin, Associate member of the Medical Society, is the new Chairman of the **Medical Council of the Washington Metropolitan Area.** He succeeds Dr. James M. Moss, of Alexandria. Vice Chairman is **Dr. Stephen J. Sheehy,** of Arlington, Va., and Secretary, Mr. John Loy, Executive Secretary of the Montgomery County (Maryland) Medical Society.

Dr. Fred R. Sanderson, President of the **Eastern Surgical Society,** was host to some 70 members and guests who attended the Annual Meeting of the Society in Washington, May 8–9. The program consisted of surgical clinics at Georgetown and the U. S. Naval Hospitals.

This Society is comprised of about 40 "active" members. Washington members, in addition to Dr. Sanderson, are Drs. John H. Lyons, Robert E. Moran, Paul C. Kiernan, Frank S. Ashburn, and Captain Robert B. Brown, Chief of Surgery at the Naval Hospital.

Available in the Medical Society's offices are 50 free copies of "**The Business Side of Medical Practice,**" published by the American Medical Association in coöperation with the Sears-Roebuck Foundation. This is an attractive booklet which deals with such problems as setting up a practice, selecting a location, legal matters, financing, insurance, billing and collecting, etc. It is nicely illustrated and is easy to read. The publication can be picked up at the Society's offices at 1718 M Street, N.W.

The Section on Neurology, Neurosurgery and Psychiatry elected new officers, May 7, 1959, at a meeting in the Medical Society's building. The new officers are:

Dr. Marvin C. Korengold, *Chairman*; Dr. Desmond S. O'Doherty, *Vice Chairman*; and Dr. Thomas L. Auth, *Secretary-Treasurer.*

This was the final meeting of the Section until October. A joint meeting with the Philadelphia Neurological Society is planned to be held in Washington, Friday, November 6, 1959. Members who wish to present scientific papers at this meeting are requested to communicate with the Secretary, Dr. Auth, 3759 Northampton Street, N.W., Washington 15, D.C.

The Section on Anesthesiology of the Medical Society of the District of Columbia and the District of Columbia Society of Anesthesiology held a joint meeting and election of officers in the Medical Society's building, April 27. The members to take office on July 1 are:

Dr. John J. Leahy, *President*; Dr. Thomas F. McDermott, *Vice President and President-elect*; and Dr. Ervin N. Chapman, *Secretary-Treasurer.*

St. Elizabeths Hospital Medical Society elected new officers at its annual meeting, April 18. They are:

Dr. Leon Salzman, *President*; Dr. Francis N. Waldrop, *Vice President*; and Dr. Luther Robinson, *Secretary-Treasurer.*

Dr. Winfred Overholser, Superintendent of the Hospital, delivered his annual "Superintendent's Reflections" at this meeting.

At the meeting of the Board of Trustees of **Medical Service of the District of Columbia,** May 12, **Dr. James A. Dusbabek** was elected President, succeeding Dr. Donald Stubbs, who has served as President of Medical Service since 1952. Dr. Dusbabek, widely known physician and Assistant Clinical Professor of Obstetrics and Gynecology of George Washington University School of Medicine, has served as a trustee of Medical Service for the past 7 years.

JAMES A. DUSBABEK, M.D.
President, Medical Service of D.C.

Dr. Stubbs was recently reëlected Chairman of the National Association of Blue Shield Plans, which consists of 66 Blue Shield Plans throughout the country. He will continue to serve Medical Service as an ex officio member of the Board.

In addition to Dr. Dusbabek, newly elected officers of Medical Service of D. C. are Dr. Henry L. Darner, First Vice President, and Dr. A. C. Gray, Assistant Secretary. Reëlected to office were Robert M. Holmes, Second Vice President; Bruce Baird, Treasurer; and George B. McGovern, Secretary.

At the Annual Meeting of Participating Physicians, April 29, Drs. Read N. Calvert, Frank S. Pellegrini, Leonard T. Peterson and Peter Soyster were newly elected to the Board of Trustees. Reelected to the Board were Drs. Henry D. Ecker, Frederick C. Heath, and G. Halsey Hunt; also Messrs. Baird, Holmes, Robert C. McCann, and Philip M. Talbott. Drs. Darner, Dusbabek, Ernest A. Gould and Edgar M. McPeak are also members of the Board; Dr. Stubbs, Mr. McGovern, and Theodore Wiprud, Secretary of the Medical Society, are ex officio members.

Dr. Dusbabek, a native of North Dakota, was graduated in medicine from George Washington University in 1934. He interned at George Washington University Hospital and served his residency in obstetrics and gynecology at Columbia Hospital for Women and at Womans Hospital in New York City. He has practiced in Washington since 1939. He is a diplomate of the American Board of Obstetrics and Gynecology.

Newly elected officers of the **D. C. Trudeau Society** are:

Dr. J. Winthrop Peabody, Jr., *President-elect*; Dr. Roy G. Klepser, *Vice President*; and Dr. James P. Mann, *Secretary-Treasurer*.

Dr. James J. Feffer is the new President. The meeting and election of officers were held prior to the annual dinner meeting of the D. C. Tuberculosis Association, May 7.

Dr. Robert H. Felix, Director of the National Institute of Mental Health, was chosen **President-elect of the American Psychiatric Association** at its 115th Annual Meeting in Philadelphia, April 28. He will assume the office of President in May 1960.

Dr. Felix has headed the National Institute of Mental Health since it was established in 1949 as one of the seven institutes of the National Institutes of Health. Previously he had been Chief of the Institute's predecessor, the Division of Mental Hygiene. Active in the APA for many years, he served as Treasurer in 1958. The organization has a membership of more than 11,000.

Dr. Addison M. Duval, formerly of St. Elizabeths Hospital, now Commissioner of Mental Health for the State of Missouri, is the new Treasurer of APA.

Dr. Roy T. Lester is the new **Manager of the Washington Office of the American Medical Association.** He succeeds Mr. Edwin Patterson, who has returned to his former employment as counsel to the Veterans Affairs Committee, House of Representatives.

Dr. Lester has been Medical Director of Blue Cross-Blue Shield of Texas for the last 5 years. He was graduated from Tulane University School of Medicine in 1939. During World War II he served for 5 years in the Army Medical Corps, separating from the service with the rank of Lieutenant Colonel.

He is a diplomate of the American Board of Surgery and the Board of Thoracic Surgery and is a Fellow of the American College of Surgeons.

Dr. Otis L. Anderson, who is retiring, July 1, as Assistant Surgeon General for Personnel and Training, United States Public Health Service, has been named one of the AMA's medical liaison representatives in the Washington Office. Dr. Anderson has been in the Public Health Service in varying capacities for 30 years and has held his present post since October 1957.

Major General James P. Cooney, MC, USA, Deputy Surgeon General of the Army since 1955, has been assigned to Europe as Chief Surgeon, Headquarters, U. S. Army Europe.

General Cooney has achieved distinction in the Army as an authority on radiology and atomic medicine. Before his assignment as Deputy Surgeon General, he was Commandant of the Medical Field Service School at the Brooke Army Medical Center, Fort Sam Houston, Texas.

Maxwell & Tennyson, Inc., a partnership which began in September 1926 between the late David L. Maxwell and Irving A. Tennyson, has been **purchased by Peoples Drug Stores, Inc.** The announcement was made, May 11, by Mr. George B. Burrus, President and Chairman of the Board of the latter firm. Maxwell & Tennyson, a name synonymous with the highest standards of pharmaceutical practice in the District of Columbia, has operated three prescription pharmacies in the Medical Center, at 1726, 1801, and 1835 Eye Street, N.W.

After Mr. Maxwell's death in 1953, Mr. Tennyson became sole owner. The business was incorporated on July 1, 1958.

Mr. Tennyson, who is retiring from active business, is an Associate member of the District Medical Society. Mr. Maxwell was also an Associate member of the Medical Society for many years before his death.

Mr. Burrus stated that the three stores will continue to be operated under the name of Maxwell & Tennyson with no changes in the policies, services or personnel, with the exception of the retirement of Mr. Tennyson.

PERSONALS

Dr. William P. Herbst was honored by the Georgetown Clinical Society at its dinner meeting at the Mayflower Hotel, May 18. Dr. Blaine H. Eig, Chairman of the Old Timers Committee, presented Dr. Herbst with a Certificate of Merit, which is given each year to a distinguished member of the Society.

Many "old timers" were present at the meeting, including Dr. J. J. Mundell, one of the founders of the Society. Dr. August Kramm, President of the Clinical Society, presided.

George Washington University honored five Washington physicians who had practiced more than 55 years each, April 30. The physicians, all graduates of the University's School of Medicine, are: **Dr. Charles Stanley White,** Class of 1898; **Dr. Edgar P. Copeland and Dr. Henry C. Macatee,** Class of 1900; **Dr. A. B. Bennett,** Class of 1901; **and Dr. William Earl Clark,** Class of 1904.

Each physician received a scroll, in appreciation of his "long and untiring service on behalf of humanity," from Mr. Otto W. Schoenfelder, President of the General Alumni Association. Drs. White, Clark, Bennett, and Macatee are all Past Presidents of the District Medical Society. Dr. Copeland was formerly Chief of the Medical Staff at Children's Hospital.

Dr. Calvin T. Klopp, Director of the George Washington University Cancer Clinic, **and Dr. Murray M. Copeland,** Professor of Oncology, Georgetown University School of Medicine, were presented with honorary memberships in the St. George Society, an organization of medical students interested in cancer control, at its meeting, April 28, at the George Washington University Hospital. Mrs. Doris Rhea, Director of Education for the D. C. Cancer Society, was similarly honored. Dr. J. Keith Cromer, Chairman of Professional Education of the Cancer Society, awarded the certificates of membership.

WILLIAM P. HERBST, M.D.

1959 Honoree of Georgetown Clinical Society

The newly elected President of the St. George Society is Monroe Dowling, Jr., of Howard University College of Medicine. The new Program Chairman is Emile Mahler, Jr., of Georgetown, and the Secretary-Treasurer, Philip Goodman, of George Washington.

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
April 15	Dr. Julius Schreiber	Emotional Needs of Healthy Family Life	Glenwood Parents Association, Arlington, Va.
April 21	Dr. Jason Geiger	Heart Diseases	Civanettes, Kensington, Md.
May 7	Dr. Howard S. Madigan, *Moderator*	Symposium on "The Cancer Patient in Our Community"	School of Nursing, Washington Hospital Center
June 2	Dr. Charles A. Hufnagel	Surgery for Aneurysms	Graduate Nurses, Doctors Hospital
June 16	Dr. C. Barrie Cook	The Story of Radiation and Isotopes	

Dr. Roland B. Scott, Professor of Pediatrics at Howard University, was honored recently at a luncheon given by the pediatrics staff of the University and Freedmen's Hospital on the Howard campus. The luncheon marked his fiftieth birthday and twentieth year of service to the University.

Dr. George E. Schreiner was elected President of the American Society for Artificial Internal Organs at its Annual Meeting in Atlantic City, April 12–13. He will continue to serve as Editor of the *Transactions.*

Dr. Wallace M. Yater was reëlected Secretary-General of the American College of Physicians for a 3-year term during the 40th Annual Session of the College, held at the Conrad Hilton Hotel in Chicago, April 20–24.

Dr. S. Ross Taggart, Chief of the Preventable and Chronic Disease Division, District Health Department, has accepted an appointment as Assistant Health Officer of Prince Georges County. The appointment was made by the County Commissioners and will be effective July 29. Dr. Taggart has been on the staff of the District Health Department for 30 years.

Dr. Aris Carpousis was elected National Vice President of the Civil Aviation Medical Association, which held its meeting in Los Angeles, April 27–29.

Drs. Frank S. Pellegrini and Otis R. Farley were elected Vice Presidents of the Board of Trustees of the Greater Southeast Community Hospital Foundation. Contributions to the Hospital Building Fund are now $420,000, nearly half of the one million dollar goal.

Dr. Marvin E. Perkins, Chief of the District of Columbia Bureau of Mental Health, was promoted to Assistant Professor in Public Health Administration at the Johns Hopkins University School of Hygiene and Public Health, February 1.

Dr. William J. Tobin, Associate Professor of Orthopedic Surgery, Georgetown University School of Medicine, participated in a seminar for the Part I examinations of the American Board of Orthopedic Surgery, held at Georgetown University School of Medicine, March 25–26.

Dr. Thomas W. Mattingly, Washington, and Dr. David B. Allman, Atlantic City, served as Honorary Co-chairmen of the first World Conference of Angiology, held in Atlantic City, N. J., June 5–7, 1959.

The Conference honored the tenth anniversary of the journal *Angiology* and the Angiology Research Foundation, and was the first time that an international meeting devoted exclusively to vascular diseases had been held in the United States.

Dr. Donald H. Leeper, Jr., was elected Vice President, representing the School of Medicine, of the General Alumni Association of George Washington University for 1959–60.

Dr. Charles A. Hufnagel is the new President of the John Carroll Society of Washington, an organization of more than 500 Catholic business and professional men in the Washington area. Among those elected to the Board of Governors were **Dr. Oscar B. Hunter, Jr., and Dr. Mitchell W. Spellman.**

Dr. Lawrence E. Putnam was elected to membership in the Alpha Chapter of Alpha Omega Alpha at George Washington University School of Medicine.

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Help for Ten Million. A Manual for Patients with Arthritis, Rheumatism and Gout. DARRELL C. CRAIN, M.D., F.A.C.P., Clinical Associate Professor in Medicine, Georgetown University Medical School, Washington, D. C. Price, paper, $1.45. Pp. 251. Philadelphia: Lippincott, 1959.

Diseases of Metabolism. Detailed Methods of Diagnosis and Treatment, 4th ed. Edited by GARFIELD G. DUNCAN, M.D., Professor of Medicine, University of Pennsylvania; Director of Medical Divisions, Pennsylvania Hospital and The Benjamin Franklin Clinic, with 22 contributors. Price, $18.50. Pp. 1104, illustrated. Philadelphia: Saunders, 1959.

Medical Department, United States Army: Surgery in World War II. Neurosurgery, Volume I. Editor in Chief: COLONEL JOHN BOYD COATES, JR., M.C.; Editors for Neurosurgery: R. GLEN SPURLING, M.D., AND BARNES WOODHALL, M.D.; Associate Editor: ELIZABETH M. MCFETRIDGE, M.A. Prepared and published under the direction of MAJOR GENERAL S. B. HAYS, The Surgeon General, United States Army. Pp. 466. Washington, D.C.: Office of the Surgeon General, Department of the Army, 1958.

Pediatric Neurology. STANLEY S. LAMM, M.D., Clinical Professor of Pediatrics, State University of New York, College of Medicine at New York City; Neurological Consultant, Pediatric Dept., Kings County Hospital (State Univ. Div.), Brooklyn, N. Y.; Formerly Instructor in Neurology, Long Island College of Medicine, Brooklyn, N. Y.; Director, Cerebral Palsy Clinic, Long Island College Hospital, Brooklyn, N. Y. Price, $12.90. Pp. 495. New York: Landsberger, 1959.

Readings in Psychoanalytic Psychology. Edited by MORTON LEVITT, PH.D., Associate Professor of Psychiatry and Assistant Dean, Wayne State University, College of Medicine, Detroit, Michigan, with 24 contributing authors. Price, $8.50. Pp. 413. New York: Appleton, 1959.

Fracture Surgery. A Textbook of Common Fractures. HENRY MILCH, M.D., Emeritus Attending and Consulting Orthopedic Surgeon, Hospital for Joint Diseases, New York, AND ROBERT AUSTIN MILCH, M.D., Assistant Resident Surgeon, Peter Bent Brigham Hospital, Boston; with a chapter on anesthesia by Herbert D. Dubovsky, M.D., Director of Anesthesiology, Easton Hospital, Easton, Pennsylvania. Price, $17.50. Pp. 470, with 671 illustrations. New York: Hoeber-Harper, 1959.

Textbook of Surgery, 3rd ed. Edited by H. FRED MOSELEY, M.A., D.M., M.CH. (Oxon), F.A.C.S., F.R.C.S. (Eng.), F.R.C.S.(C), Assistant Professor of Surgery, McGill University; Associate Surgeon, Royal Victoria Hospital, Montreal, Canada. Price, $17.00. Pp. 1336, with 738 text illustrations and 108 color plates. St. Louis: Mosby, 1959.

Therapeutic Radiology—Rationale, Technique, Results. WILLIAM T. MOSS, M.D., Assistant Professor of Radiology, Northwestern University School of Medicine, Department of Radiology, Chicago, Illinois; Director, Department of Therapeutic Radiology, Chicago Wesley Memorial Hospital; Chief, Department of Therapeutic Radiology, Veterans Administration Research Hospital, Chicago, Illinois. With foreword by Lauren V. Ackerman, M.D. Price, $12.50. Pp. 403, with 146 illustrations. St. Louis: Mosby, 1959.

The Anatomy of the Nervous System—Its Development and Function, 10th ed. STEPHEN WALTER RANSON, M.D., PH.D., Late Professor of Neurology and Director of Neurological Institute, Northwestern University Medical School, Chicago. Revised by SAM LILLARD CLARK, M.D., PH.D., Professor and Chairman of the Department of Anatomy, The Vanderbilt University School of Medicine, Nashville. Price, $9.50. Pp. 622, with 434 illustrations. Philadelphia: Saunders, 1959.

The Family Medical Encyclopedia. Editor-in-Chief: JUSTUS J. SCHIFFERES, PH.D., Director, Health Education Council; formerly Medical Editor, National Foundation for Infantile Paralysis; Associate in Hygiene, Columbia University; Managing Editor, *Modern Medicine*. Illustrated by Louise Bush, Ph.D. A Health Education Council Book. Price, $4.95. Pp. 617. Boston: Little, 1959.

General Urology, 2nd ed. DONALD R. SMITH, M.D., Clinical Professor of Urology and Chairman of the Department of Urology, University of California School of Medicine, San Francisco; Consulting Urologist, San Francisco Hospital; Consulting Surgeon (Urology), Veterans Hospital, San Francisco; Chief of the Department of Urology, St. Luke's Hospital, San Francisco. Illustrated by Ralph Sweet. Price, paper, $4.50. Pp. 328. Los Altos, Calif.: Lange, 1959.

The Birth of Normal Babies. LYON P. STREAN, M.Sc., PH.D., D.D.S., F.A.P.H.A., Consultant, Norristown State Hospital, Norristown, Pa.; Consultant, Montgomery Hospital, Norristown, Pa. Price, $3.95. Pp. 194. New York: Twayne Publishers, 1958.

Diseases of the Colon and Anorectum. Edited by ROBERT TURELL, M.D., Associate Surgeon and Chief, Rectal Clinic, The Mount Sinai and Montefiore Hospitals; Surgeon, Bronx Municipal Hospital Center; Associate Professor of Clinical Surgery, Albert Einstein College of Medicine, New York. Two volumes. Price, $35.00 per set. Vol. I, pp. 1–608. Vol. II, pp. 609–1238. Philadelphia: Saunders, 1959.

Surgery of the Prostate. HENRY M. WEYRAUCH, M.D., F.A.C.S., Clinical Professor of Surgery (Urology); Chief, Division of Urology, Stanford University School of Medicine. Illustrated by Halcyon Harris Cowles and Ralph Sweet. Price, $15.00. Pp. 535, with 288 illustrations. Philadelphia: Saunders, 1959.

Long-Term Illness. Management of the Chronically Ill Patient. Edited by MICHAEL G. WOHL, M.D., F.A.C.P., Former Clinical Professor of Medicine (Endocrinology), Philadelphia General Hospital and Temple University School of Medicine; Chief of Nutrition Clinic, Philadelphia General Hospital; Consultant Physician in Medicine, Albert Einstein Medical Center; Attending Physician, Home for the Jewish Aged. With the collaboration of 79 Contributing Authorities. Price, $17.00. Pp. 748, illustrated. Philadelphia: Saunders, 1959.

Ciba Foundation Symposium on Amino Acids and Peptides with Antimetabolic Activity. G. E. W. WOLSTENHOLME, O.B.E., M.A., M.B., B.Ch., AND CECILIA M. O'CONNOR, B.Sc., Editors for the Ciba Foundation. Price, $8.75. Pp. 286, with 28 illustrations. Boston: Little, 1958.

Ciba Foundation Symposium on the Biosynthesis of Terpenes and Sterols. G. E. W. WOLSTENHOLME, O.B.E., M.A., M.B., B.CH., AND MAEVE O'CONNOR, B.A., Editors for the Ciba Foundation. Price, $8.75. Pp. 311, with 102 illustrations. Boston: Little, 1959.

The Sedimentation Rate of Human Erythrocytes. Its Basic Concepts. Its Value as a Differential Diagnostic Agent. Its Multiple Clinical Applications. FRANK WRIGHT, M.D., F.A.C.P., F.A.S. Price, $2.50. Pp. 43. New York: Vantage, 1938.

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, April 27, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

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LLOYD GRIFFITH LEWIS, A.B., M.D.
(1902-1959)

Dr. Lloyd G. Lewis, Clinical Professor of Urology at Georgetown University School of Medicine, died, March 2, 1959, in his new home at 3027 O Street, N. W. His offices were at 915 19th Street, N.W.

Dr. Lewis was born in Remsen, New York, November 10, 1902, to John and Nettie Griffith Lewis. He attended the public schools in Remsen and was graduated from Hamilton College, Clinton, New York, in 1924. He received his medical degree from Johns Hopkins University School of Medicine in 1928.

Dr. Lewis was one of the country's outstanding urologists. He received his training in urology and surgery at Johns Hopkins Hospital, following graduation from medical school, and further training in surgery at Emergency Hospital in Washington. He returned to Johns Hopkins Hospital as resident in urology (1930 to 1933) and continued on the teaching staff of the University until 1946. In that year he came to Washington to accept the post of Associate Professor of Urology at Georgetown. Two years later he was appointed Clinical Professor of Urology. He was also on the executive and teaching staff of Doctors Hospital.

During World War II Dr. Lewis served in the Army Medical Corps, holding the commission of Colonel when he was discharged in 1946. For four years, 1942 to 1946, he was Chief of the Urological Section at Walter Reed General Hospital. During those years he was also consultant in urology to the Secretary of War.

He was a diplomate of the American Board of Urology; a Fellow of the International College of Surgeons; and a member of the American Medical Association, the American Urological Association, Southern Medical Association, the Southeastern Surgical Congress, and the Hippocrates-Galen Medical Society. He was elected to Active membership in the D.C. Medical Society in 1947. He also belonged to the Army-Navy Club and the Congressional Country Club.

Dr. Lewis was a frequent lecturer at national and regional medical meetings and had contributed numerous articles to the literature.

He is survived by his wife, Mrs. Frances Carter Lewis, and a son, John Richard Lewis, of White Sands Missile Range, New Mexico.

EDWARD HIRAM REEDE, A.B., M.D.
(1875–1959)

Dr. E. Hiram Reede, Washington psychiatrist for more than 50 years, died, March 14, 1959 at Doctors Hospital. He was a Life member of the Medical Society of the District of Columbia.

Dr. Reed was born in Albion, N.Y., June 3, 1875, to Henry D. and Mary Armstrong Reede. He attended the public schools of Albion and received his Bachelor of Arts degree from Cornell University in 1898. He enrolled at Johns Hopkins University for his medical education, graduating in 1902. He interned at St. Lukes Hospital in New York City the following year.

Dr. Reede began his practice in the District of Columbia in 1903. He served on the faculty of Howard University School of Medicine as Professor of Physical Diagnosis from 1900 to 1915, and for many years on the faculty of Georgetown University School of Medicine, first as Instructor in Neurology and from 1932 to 1937 as Professor of Clinical Psychiatry.

During World War I he served on local draft boards. In the 1930's he was attending psychiatrist at Gallinger (now D. C. General) Hospital. Before retiring in 1957 he had been engaged solely in private practice.

Dr. Reede was elected to Active membership in both the Medical Association and the Medical Society of the District of Columbia in 1904, and became a Life member of the latter in 1945. He held life membership in the American Psychiatric Association and the American Psychoanalytic Association. He was also a member of the American Medical Association, the International Psychoanalytic Association, and the Washington-Baltimore Psychoanalytic Society. He was co-author of a book, "The American Mind in Action," published by Harper in 1924. He had contributed a number of articles to the literature.

Surviving him is his wife, Mrs. Eva Belle Reede, of the home address, 3601 Connecticut Avenue, N.W.

Office Management of Psychiatric Problems—Terhune

(Continued from page 311)

The skillful office practice of psychiatry is one of the greatest joys of a physician's life. It is a relief from many of the monotonies of the everyday practice of organic medicine. The more experienced the doctor, the more he believes in psychotherapy.

No purely psychiatric care can replace the understanding and knowledge of the family doctor. This is the background of good medicine. Treatment by the family doctor combats the undesirable dependence on psychiatrists that some patients develop. At least half of the patients now in the care of psychiatrists should be cared for by the skilled, psychiatrically-trained general practitioner.

Mental Health Plan for Generalists—Goshen

(*Continued from page 315*)

3. That the medical organizations recognize the fact that psychiatric disability represents our largest single public health problem today and that the average physician has generally had relatively little training in the field.

4. That the medical organizations assume the leadership necessary to fill this vacuum in medical postgraduate education.

Fortunately, the area in which you live and practice is well supplied with some of the most highly trained psychiatrists in the country, and they are prepared to coöperate in setting up an educational program. Also, we are fortunate in having available a source of funds which can be tapped to finance postgraduate training programs in psychiatry. The National Institute of Mental Health received an appropriation from the last Congress which provides a half million dollars to finance such training programs. This money is easily available at the present time, and it would be most appropriate that the progressive state of being of medical practice in this metropolitan area be reflected soon in an enlightened and advanced educational program which can serve as a model to the rest of the country.

In summary, it is urgently recommended that this Society establish a committee, or assign to an existing committee the function of establishing a liaison with the local psychiatric society which will result in setting up a pilot training project.

Psychic Changes in Uremic Syndrome—Schreiner

(*Continued from page 323*)

chemical uremia has been defined. A hypermetabolic state in the recovery phase has been described. A transient organic psychosis in the recovery state has been noted. Any chemical theory purporting to explain the uremic syndrome should take cognizance of these clinical observations.

BIBLIOGRAPHY

1. Harrison, T. R., and Mason, M. F.: Medicine, 1937, **16,** 1.
2. Meroney, W. H.: J.A.M.A., 1955, **158,** 1513.
3. Moschcowitz, E.: J. Mt. Sinai Hosp., 1948, **15,** 38.
4. Bull, G. M.: Lancet, 1955, **1,** 731 and 777.
5. Menninger, K. A.: J. Nerv. & Ment. Dis., 1924, **60,** 26.
6. Grimshaw, T. W.: Dublin J. M. Sc., 1875, **59,** 349.
7. Baker, A. B., and Knutson, J.: Am. J. Psychiat., 1946, **102,** 683.
8. Madonick, M. J., Berke, K., and Schiffer, I.: Arch. Neurol. & Psychiat., 1950, **64,** 431.
9. Alpers, B. J.: J. Nerv. & Ment. Dis., 1925, **62,** 265.
10. Knutson, J., and Baker, A. B.: Arch. Neurol. & Psychiat., 1945, **54,** 130.
11. Merrill, J. P.: Abstracted, Am. J. Med., 1953, **14,** 519.
12. McDermott, W. V., Jr.: New England J. Med., 1957, **256,** 460.
13. Leiter, L.: New York J. Med., 1950, **50,** 1578.
14. Bradley, S. E.: New England J. Med., 1946, **235,** 755 and 791.
15. Baker, R.: J. Urol., 1951, **65,** 197.
16. Meroney, W. H., Lawson, N. L., Rubini, M. E., and Carbone, J. V.: New England J. Med., 1956, **255,** 315.
17. Houck, J. C., and Berman, L. B.: J. Appl. Physiol., 1958, **12,** 473.

Doctors and Lawyers—Gannon

(*Continued from page 348*)

there was no proper basis for a suit against the physician for malpractice.

In the old days when doctor-patient relationship was cordial and friendly and close, both the doctor and the patient were better off. We have forgotten that the body itself is a complicated and efficient chemical laboratory equipped to fight germs and to heal itself—that the tendency of the body is to return to health, so that about 80 per cent of human maladies will recover with rest and time. The doctor's duty was to provide solace and comfort and hope while nature was doing a pretty good job. I wonder how much better off we all are than in the despised "horse and buggy days."

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Book Reviews

The Management of Fractures and Dislocations—An Atlas. Volumes I (pp. 1–470) and II (pp. 471–960). ANTHONY F. DEPALMA, M.D. With 1927 illustrations by Barbara B. Finneson and William A. Osburn. Price, $35.00 for 2 volumes. Philadelphia: Saunders, 1959.

This is a 2-volume text of 960 large pages in an atlas format which discusses fractures, dislocations, and severe soft tissue injuries of each body region except the skull, face and jaws, which the author apparently assigns to individual specialties. The material is presented in an unusually lucid and concise outline style, in large bold type, double-spaced with wide margins, facilitating fast reference for specific information. It is profusely illustrated with 1,927 schematic line drawings which accurately depict manipulative and operative methods in management of specific injuries, and completely replace the usual photographs and X-ray reproductions. Although the sketches are well executed, the experienced practictioner will probably miss the more realistic X-rays of illustrative cases.

The first section comprises a brief discussion of definitions, pathology, and repair of fractures, and general principles and complications in the management, reduction, and immobilization of pathologic, birth, and traumatic fractures and dislocations. The second part is a comprehensive, methodical presentation of treatment of regional injuries, with a complete management program outlined for each type of fracture and dislocation. Where variations occur, necessitating a modification in the treatment plan, the entire set of remarks and management plan are repeated with meticulous detail, so that the reader does not have to refer to other sections for complete information.

The author has admittedly confined his methods of treatment only to those with which he personally has had satisfactory results, in order not to confuse the reader with multiple and controversial technics. This dogmatic approach is a valuable teaching aid, but many orthopedic surgeons will take issue with several recommended procedures, such as insertion of a Kirschner wire in a comminuted Colle's fracture and routine open reduction of fractures of the femoral neck without radiographic control.

Although the text is manifestly an atlas and not a reference volume, Dr. DePalma has made a worthwhile addition to the library of trauma, with a refreshingly new style of presentation, which should be of considerable service to the student, resident physician, and traumatic surgeon.

EVERETT J. GORDON, M.D.

Symposia on Child and Juvenile Delinquency. Presented at the American Orthopsychiatric Association. Chaired and edited by BENJAMIN KARPMAN, M.D. Illustrations by Wesley R. Wilken. Price, $10.00. Pp. 364. Washington, D.C.: Psychodynamics Monograph Series, 1959.

The book is a report of 5 symposia on juvenile delinquency, held under the auspices of the American Orthopsychiatric Association, 1949–53. Many leaders in the field of juvenile delinquency contributed their findings and thinking, and therefore many viewpoints are represented.

Aspects of juvenile delinquency discussed include definition, types, etiology, psychodynamics, psychopathology, diagnosis, prognosis, and treatment.

Although considerable differences of opinion are apparent and there is frank and severe criticism among the participants, still there is agreement in a number of areas. There seems to be agreement that unsatisfactory familial situations and deplorable social and economic conditions are big factors in the development of child delinquency. There is considerable stress put on the child's early development, particularly the first 2 years of life. All contributors recognize the difficulty of treating some types of delinquents. However, since delinquency includes a variety of psychiatric conditions, hope is expressed concerning the treatment of certain types of cases. There seems to be less hopelessness in recent years regarding treatment of "psychopaths," and even the diagnosis is less frequently used.

The contributors state their views clearly and concisely and this makes the book easy to read and informative. The illustrations are clear and provide an interesting punctuation to the text. The editor does a commendable job in synthesizing and summarizing.

In the closing paragraph the editor indicates that the community has an important responsibility in the prevention and cure of delinquency.

IRVING L. BERMAN, M.D.

Bone Tumors, 2nd ed. LOUIS LICHTENSTEIN, M.D. Price, $16.00. Pp. 402, with 220 illustrations. St. Louis: Mosby, 1959.

Mechanically speaking, this is a superior book. Its 402 pages are arranged in a book of size, paper and type that makes for comfortable reading. The table of contents is well organized and the index is complete. The bibliography is arranged as references at the end of each chapter. The illustrations are suitable, adequate in number, and well placed.

(*Continued on page 44*)

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References: 1. Sheldon, J. M.: Postgrad. Med. **14**:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy **19**:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly **37**:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. **112**:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. **5**:1183 (Sept.) 1958.

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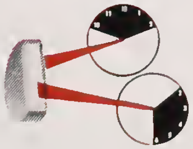

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Book Reviews

(*Continued from page 42*)

The subject matter is somewhat expanded and revised from Dr. Lichtenstein's earlier (1952) monograph on bone tumors. The foreword to pathologists gives specific suggestions for improving the quality of bone preparations. The organization of the text is from a pathologist's, rather than a clinician's, point of view and reflects Dr. Lichtenstein's own classification of bone tumors.

This classification, as given briefly in chart form (page 26), groups first the histologic types of tissues and cells from which bone tumors can arise. In the second column are the benign tumors which can result. In a third parallel column are the malignant counterparts. Hence, at a glance the tissue of origin and benign counterpart as well as related benign and malignant tumors can be seen.

The author's wealth of experience is an excellent background for his suggestions and opinions regarding diagnosis and treatment. He favors amputation or radical resection as the only hope for survival in osteogenic sarcoma without evidence of distant metastases. Where early limited metastases are present in the lung, he has found lobectomy or pneumonectomy to be beneficial. In general, however, his suggestions are for more conservative forms of therapy.

Dr. Lichtenstein disagrees with Geschickter and Stout as to the origin of fibrosarcoma, and maintains that fibrosarcoma of bone is a distinct neoplasm and less serious than osteogenic sarcoma. He emphasizes history and observation of the behavior of the tumor as the most important factor in the differential diagnosis of this malignant neoplasm.

By far the most frequent malignant bone tumors are metastatic growths from primary malignant growths elsewhere. Dr. Lichtenstein finds these much more common than suspected, and frequently asymptomatic, stimulating non-neoplastic bone diseases. He points out the value of X-ray irradiation in palliation of bone metastases, but stresses the unpredictable results of such treatment.

The author believes that in the diagnosis and treatment of skeletal tumors more mischief is done through overdiagnosis than through failure to recognize malignant neoplasms early.

Lois I. Platt, M.D.

Therapeutic Radiology—Rationale, Technique, Results. William T. Moss, M.D. With foreword by Lauren V. Ackerman, M.D. Price, $12.50. Pp. 403, with 146 illustrations. St. Louis: Mosby, 1959.

The law of Bergonié-Tribondeau, descriptive of the relative radiosensitivity of cells, is a fundamental concept in radiation therapy, governing in great measure the growth of this still youthful medical specialty. The specific details of the effects of radiation on normal tissues, however, have not been included in such useful detail in any previous volume on radiation therapy. The discussion of these responses of normal tissue, preliminary to each chapter, constitutes the major contribution that Moss brings to the growing library on radiation therapy. This information alone, difficult to obtain in concentrated detail, makes the book an important text for pathologists and surgeons as well as for radiologists. Perhaps its greatest usefulness will be in the hands of the trainee in therapeutic radiology, who will find here "not a recipe for radiotherapy" but a good general guide to general clinical situations.

After an introductory chapter on general concepts in therapeutic radiology, there are 19 chapters devoted to the technic and results of conventional, supervoltage, and radium therapy of malignant disease of the various organs and organ systems. These are compactly presented, usually with discussions of variations of management. Where controversy exists, Moss generally states his technic preference, and his rationale.

Discussion of the Stockholm, Paris, and Manchester technics in the treatment of carcinoma of the cervix is briefly but well presented.

Moss has wisely excluded radioisotope therapy, and radiation physics. A knowledge of this latter discipline he assumes the reader to have, but there is none of the staggering and often overwhelming mathematical concepts and isodose curves indigenous to this field. These, too, Moss leaves to others, and concentrates with a careful style, balanced between enthusiasm and proper caution, on individual patient care and therapy rationale. An occasional sanguine attitude may be found, but this is understandable when measured against the author's sincerity.

The book is light in weight, well printed, with many instructive illustrations. Each chapter has a well selected bibliography. Not encyclopedic of therapeutic radiology, this is nevertheless a good up-to-date text which should prove very popular with young radiologists.

A. C. Wyman, M.D.

Physical Diagnosis. The History and Examination of the Patient. John A. Prior, M.D., and Jack S. Silberstein, M.D., and Contributors. Price, $7.50. Pp. 388, with 193 illustrations. St. Louis: Mosby, 1959.

In this text the authors have stressed the importance of obtaining an adequate history through careful attention to detail and to establishment of good doctor-patient relationship. There is no attempt to enter into differential diagnosis or treatment.

More attention has been devoted to instruction of the student in the proper use of ordinarily used diagnostic equipment, and each section lists common mistakes in technic to be avoided by the beginner. Numerous photographs and diagrams are utilized to illustrate these pro-

(*Continued on page 47*)

Book Reviews

(*Continued from page 44*)

cedures and to show underlying mechanisms of pathophysiology. To keep the subject matter from becoming too technical, X-rays, phonocardiograms, electrocardiograms and laboratory findings are entirely omitted. To prevent a pathology-atlas appearance only a few photographs of specific disease entities are shown. Authorities in pediatrics, gynecology, ophthalmology, otolaryngology, neurology, gastroenterology, orthopedics and surgery have contributed in their fields.

The book should serve as a useful guide to the medical student just entering his clinical years.

Albert E. Marland, Jr., M.D.

A Doctor Remembers. Edward H. Richardson, M.D. Price, $3.95. Pp. 252. New York: Vantage Press, 1959.

The author of this book is a distinguished physician who has had a long and successful career, not only in the practice of his profession but as a medical educator. In addition, he has considerable literary talent. The reader will be particularly impressed by Dr. Richardson's powers of description.

In the early part of his book he writes nostalgically of his youth in Virginia, and a pleasant boyhood it must have been. He lived in a world unknown to physicians under 50.

Most interesting to the physician-reader will be Dr. Richardson's recollections of the giants of medicine with whom he was associated in the early 1900's—Sir William Osler, Drs. Howard Atwood Kelly, William Stewart Halsted, and William Henry Welch. Dr. Richardson is unabashedly a hero-worshipper for there are no flaws in their characters or professional equipment where he is concerned.

Much of the book is devoted to Dr. Richardson's experiences in practice and teaching. They are well seasoned with mildly amusing anecdotes.

T. W.

Clinical Obstetrics and Gynecology. A Quarterly Book Series. Vol. 1, No. 4. Symposium on Operative Obstetrics, edited by J. Robert Willson, M.D. Symposium on Genital Cancer, edited by Daniel G. Morton, M.D. Price, $18.00 subscription for 4 consecutive numbers. Pp. 857–1138. New York: Hoeber-Harper, December 1958.

The fourth and final issue of "Clinical Obstetrics and Gynecology" covers a very comprehensive group of the various aspects of, first, Operative Obstetrics, edited by Dr. J. Robert Willson, and second, Genital Cancer, edited by Dr. Daniel G. Morton. These brief summaries represent the latest thoughts of these many experts and furnish an excellent review for the busy clinician.

Dr. Elsie R. Carrington's chapter on the Prevention and Management of Injuries to the Vagina and Perineum is well expressed and clearly and simply illustrated. Dr. Tommy N. Evans' chapter on Prevention and Management of Injuries Higher Up in the Reproductive Canal is well outlined and should be required reading for any doctor who practices obstetrics. Dr. Charles S. Stevenson has covered the Management of Dystocia due to large or abnormal fetus—this very difficult field of obstetrics. Dr. Thomas R. Goethals presents the latest opinion, which leans quite heavily toward cesarean section for the delivery of breech-presenting babies.

Forceps Delivery, Its Various Instruments and Application is nicely expressed by Dr. John E. Savage. Dr. R. A. Cosgrove's chapter on Cesarean Section, was, I thought, well covered in spite of the fact that he failed to discuss extraperitoneal cesarean section. Obstetric Version is covered by Dr. Roy G. Holly.

Dr. Robert H. Barter discussed Myonectomy and Repair of the Incompetent Cervix as operations beamed at preserving pregnancy. The subject of Sterilization and Therapeutic Abortion, particularly the technic, is thoroughly covered by Dr. Keith P. Russell. Anesthesia and Analgesia in Obstetrics, a subject much too great to handle in one chapter, was touched upon by Drs. Mary R. Wester and Leroy W. Krumperman.

The second half of the book on Genital Cancer, I found extremely interesting and stimulating. The bulk of the chapters emphasize reasons and methods for early diagnosis with the exception of the chapter by Dr. Joe Vincent Meigs on Radical Hysterectomy. Here I felt that too much space was spent on the illustration and description of a radical operation which should not be attempted by the reader to whom this book is beamed. Dr. Daniel G. Morton's description of the technic of conization of the cervix seemed to me to be quite radical.

The chapter on Radioisotopes should be required reading by all gynecologists. Dr. Howard C. Taylor's chapter is well documented. I like his suggestion for a "second look" in reëxploring the patient with carcinoma of the ovary. Dr. Houston S. Everett's chapter on Complications of the Treatment of Pelvic Cancer, I found exceedingly interesting, with information not always available to the average clinician who is frequently confronted with these complications to care for.

The entire volume of Clinical Obstetrics and Gynecology, in 4 segments, is well published, easily and quickly read, and therefore is a real contribution to the busy clinician.

Albert S. Bright, M.D.

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MEDICAL ANNALS
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VOLUME XXVIII *July*, 1959 NUMBER 7

NATIONAL NAVAL MEDICAL CENTER NUMBER

This is the third of a series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions in the Washington Metropolitan Area. For the NATIONAL NAVAL MEDICAL CENTER NUMBER, the Editorial Board is indebted to Captain H. E. Richardson, M.C., U.S.N., Consulting Editor of the MEDICAL ANNALS, who secured the papers which appear in this issue.

The opinions expressed in the scientific section are those of the authors and are not necessarily those of the Department of the Navy.

ADULT STAPHYLOCOCCAL PNEUMONIA

LIEUTENANT JEROME A. GOLD, M.C., U.S.N.R.
LIEUTENANT JOHN W. DAVIS, M.C., U.S.N.
The Pulmonary Disease Service, Department of Internal Medicine, United State Naval Hospital, National Naval Medical Center, Bethesda 14, Maryland

STAPHYLOCOCCAL pneumonia was first described as a clinical entity by Netter[1] in 1892. Its special significance in past influenza epidemics has been well documented.[2-5]

Recent studies have alluded to the relative rarity of adult pneumonia due to *Staphylococcus aureus*,[6, 7] but detailed studies on this subject are lacking. However, most clinicians will attest to the increasing prevalence of staphylococcal infection in the present antibiotic era.

Twenty-one cases of adult staphylococcal pneumonia spanning a 14-year period (1942–1956) are presented in a report by Fisher et al.[7] We wish to add our experiences with 13 cases observed and treated over the past 2 years.

MATERIAL

A total of 13 cases of bacteriologically proven *Staphylococcus aureus* pneumonia admitted to the U.S. Naval Hospital, Bethesda, Maryland, January 1957 through October 1958, have been reviewed. There were 7 males and 6 females in this series, with an age range between 18 and 61; 1 patient was a Negro and 1 was a Filipino.

Symptoms and Recent History

Table 1 notes the frequency of symptoms of all patients as recorded at the time of hospitalization. Fever, cough, chest pain and chills were the commonest complaints but presented no striking diagnostic pattern when compared to other bacterial pneumonias.[8, 9] The onset of pneumonia occurred in 1 to 6 days in 7 cases and in 7 to 14 days in 6. The pre-hospitalization history was significant in that 8 patients experienced a recent bout of influenza or upper respiratory infection. There were 2 cases of anemia, a pregnant and a postpartum female, a patient with an associated pyelonephritis, and a patient with asthma. Four patients developed pneumonia during hospitalization. Their admission diagnoses were influenza, hemolytic anemia, rectal polyps, and regional ileitis. Nine patients received some antibiotic prior to the onset of pneumonia. However, the 2 fatalities were not included in that group.

TABLE 1
Symptoms of Patients as Recorded at Time of Hospitalization

Fever	13	Sweats	3
Cough	12	Malaise	2
Chest pain	9	Nausea	1
Chills	6	Anorexia	1
Rusty sputum	4	Backache	1
Headache	3	Sore throat	1
Vomiting	3	Pallor	1
Myalgia	3	Tight chest	1
Weakness	3	Vertigo	1

Physical Findings and Admission Temperature

Fever, localized or diffuse rales, tachycardia, pharyngitis, decreased breath sounds, and dullness to percussion were the outstanding signs observed during the physical examination upon admission (table 2). These signs did not differ from the usual case of pneumococcal pneumonia.[9] The admission temperature was 103°F or higher in 6 cases, but even more remarkable were the 7 cases of the patients whose temperature ranged between 99° and 100.8°F. It would therefore appear unwise to think of all cases of staphylococcal pneumonia as initially presenting with high temperature elevations and marked toxicity.

TABLE 2
Signs Observed during the Physical Examination upon Admission

Fever	13	Increased tactile fremitus	1
Rales	12	Rhonchi	1
Tachycardia	8	Bronchial breathing	1
Pharyngitis	8	Cyanosis	1
Decreased breath sounds	8	Rapid respiration	1
Dullness to percussion	7	Splinting chest	1
Friction rub	2		

Laboratory Data

The white blood count on admission usually revealed a leukocytosis, most commonly 15,000 to 25,000. The polymorphonuclear leukocyte count ranged between 71 and 80 per cent in 7 patients and over 81 per cent in 5. The sedimentation rate was elevated in all patients in which it was requested. Albuminuria was absent in 10 of 13 cases, and the electrocardiogram revealed no acute abnormalities.

Bacteriologic Findings

Eleven sputum cultures and 1 post-bronchoscopic sputum culture revealed *Staphylococcus aureus* (coagulase-positive) as the predominating pathogenic bacteria. One case was diagnosed by a positive blood culture. (Blood cultures were obtained in 10 of the 13 cases.)

Radiologic Findings

The chest X-ray film revealed 2 or more lobes to be involved in 5 instances and a single lobe to be involved in 8 cases. The upper lobe was the site of some involvement in 6 of the 13 cases (table 3). The pneumonia was patchy in 6 X-ray films, there was a segmental or lobar consolidation in 5, and a combined bronchopneumonia and consolidation in 2.

TABLE 3
Radiologic Location of Lesion

Bilateral		Single Lobe	
2 lobes	3	Right middle	3
3 or more lobes	2	Right lower	2
(NOTE: Upper lobe involved in 4 of 5 bilateral cases)		Left upper	2
		Left lower	1

HOSPITAL COURSE

The response to therapy varied with the severity of each case, associated disease, and the therapeutic regimen. A satisfactory clinical course was noted within 1 week in 6 patients and in 2 weeks in an additional 4.

The in vitro antibiotic sensitivity studies against *Staphylococcus aureus* isolated in this series are noted in table 4. All 13 patients were sensitive to bacitracin, chloromycetin, neomycin and novobiocin; 12 patients were sensitive to erythromycin; and 7 patients were resistant to penicillin, streptomycin, and tetracycline.

TABLE 4
In vitro Antibiotic Sensitivity Studies

Sensitive to bacitracin, chloromycetin, neomycin and novobiocin	13
Sensitive to erythromycin	12
Sensitive to penicillin, streptomycin, and tetracycline	6

The antibiotic regimens are recorded in table 5. Eight patients received chloromycetin in combination with some other drug, most often erythromycin and novobiocin.

RESULTS AND COMPLICATIONS

Five cases were uncomplicated. There were 3 patients who developed pleural effusion, 3 lung abscesses, and 1 hemolytic anemia; and there were 2 deaths.

The pleural fluid cleared in each instance following thoracentesis and drug therapy. One patient underwent lobectomy, without complication, for a residual lung abscess. The patient with regional ileitis withstood major abdominal surgery several months after his pneumonic disease subsided.

TABLE 5
Therapy

Chloromycetin and erythromycin	3
Chloromycetin and novobiocin	3
Chloromycetin, erythromycin, and novobiocin	1
Chloromycetin, penicillin, and streptomycin	1
Erythromycin, novobiocin, and streptomycin	1
Penicillin alone	2
Erythromycin alone	1
Tetracycline alone	1

The deaths occurred in 2 females, aged 18 and 23. The former had an associated pyelonephritis and was hospitalized for less than 48 hours. The other patient was admitted in her last trimester of pregnancy with an "upper respiratory infection and asthma." In both cases the disease was rapidly progressive, with extensive bilateral pulmonary involvement demonstrated at postmortem examination. Neither patient had received antibiotic therapy prior to hospitalization.

The 2 fatalities, 15.4 per cent of the total cases, represent an unusually low figure for adult staphylococcal pneumonia. This may be explained, in part, to the relatively few cases of debilitated individuals and septicemia in this series.

DISCUSSION

A high index of suspicion of a staphylococcal infection should be considered in any patient whose pneumonic process does not respond to standard antibiotic therapy (penicillin, tetracycline, etc.), particularly if the chest roentgenogram reveals bilateral disease, including upper lobe involvement.

We would further urge the early use of bronchoscopy and the collection of bronchoscopic

(*Continued on page 417*)

USE AND POSSIBLE ABUSE OF FIBRINOGEN*†

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SINCE the establishment of hypofibrinogenemia as a definite clinical entity during the past decade, fibrinogen has become well recognized as the specific therapeutic substance in the treatment of this condition. As is true in all fields of medicine when a specific drug or therapeutic agent is discovered, the indications for its use become more and more liberal as the substance becomes more readily available. The question arises whether the pendulum may now swing too far in the liberal use of fibrinogen for prophylaxis in some borderline cases of hypofibrinogenemia as it becomes more available. The purpose of this paper is to present 3 cases of varying degrees of severity of hypofibrinogenemia and to explore briefly both sides of the above question.

There are 2 main etiologic mechanisms for the production of hypofibrinogenemia that are generally accepted:

1. Fibrinolytic enzymes enter the maternal circulation from necrotic decidua and destroy the circulating fibrinogen.[1]

2. Thromboplastic substances from the amniotic fluid or the placenta enter the maternal circulation causing intravascular clotting with subsequent depletion of the fibrinogen.

A third mechanism suggested by some authors is depression of hepatic fibrinogen production by toxic fetal or maternal substances.

The predisposing conditions in pregnancy most likely to produce hypofibrinogenemia are (1) abruptio placenta, (2) amniotic fluid infusion or embolism, (3) prolonged retention of a dead fetus in utero, (4) eclampsia or severe preeclampsia, (5) retained placental fragments, and (6) surgical trauma or shock.

The establishment of a diagnosis of hypofibrinogenemia in most cases should not be difficult if it is suspected when any of the above conditions are present. The patient may not yet have started an active hemorrhage as will be demonstrated in 1 of the cases reported in this paper. Of course, failure of the patient's blood to clot or to form a stable clot is strong evidence that a hypofibrinogenemia is present. The following laboratory tests are necessary to confirm the diagnosis and to follow the progress of therapy: (1) observation of the clotting time and the size and stability of the clot formed by a sample of venous blood in a test tube, and (2) measurement of the blood fibrinogen level by either a quantitative turbidimetric assay or the semiquantitative Fibrindex Test developed by Ortho Laboratories.

The management of hypofibrinogenemia should include (1) an initial fibrinogen level, clotting time, hemoglobin determination and hematocrit, (2) transfusion with fresh blood to replace blood loss and control shock, (3) replacement of fibrinogen with a human fibrinogen preparation, usually requiring 4 to 10 Gm., and

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* With discussion by Sam T. Gibson, M. D., Washington, D. C., and Captain D. A. Callagan, M.C., U.S.N., Portsmouth, Va.

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(4) early delivery or evacuation of the uterus by the route indicated by the usual obstetric criteria. The use of Pitocin to stimulate labor may be contraindicated in cases of abruptio placentae if prompt and easy delivery is not anticipated. Its use may precipitate or increase the severity of hypofibrinogenemia or lower nephron nephrosis. In cases in which bleeding continues in spite of blood and fibrinogen replacement, a fibrinolysin is probably present. Here, intravenous toluidine may be of value because of its antilytic action. Therapy should be followed with serial fibrinogen levels during the acute episode and for 4 to 5 days afterward.[2]

The following are cases of hypofibrinogenemia diagnosed and treated at the National Naval Medical Center, Bethesda, Maryland, during a 6-month period.

REPORT OF CASES

Case 1. G. M., a 26-year-old white woman (P 2014), was admitted to this hospital at 20 weeks' gestation with the chief complaint of profuse vaginal bleeding of 6 hours' duration. At 2:00 p.m. on the day of admission the patient had a sudden onset of a "flush" over her body, shortness of breath, dizziness, and syncope. Shortly after this she noted the onset of vaginal bleeding with abdominal cramps. She was brought to the hospital by ambulance, where the bleeding became heavier.

A review of the past history revealed 1 spontaneous abortion requiring a transfusion and a dilation and curettage. There was no history of a bleeding tendency, and the family history was negative for the same.

Examination in the emergency room revealed a pale, apprehensive but alert woman. The blood pressure was 108/50 and the pulse rate 80 per minute. It was noted that the blood passing from the vagina was not clotting, and an immediate clotting time revealed no clot after 1 hour. The uterus was 2 fingerbreadths above the umbilicus, soft and nontender. No fetal heart tones were heard. A diagnosis of premature separation of the placenta with an initial concealed hemorrhage and hypofibrinogenemia was made. The patient was immediately typed and crossmatched for 3 units of blood. The hemoglobin was 9.3 Gm., the hematocrit 28, and fibrinogen level less than 100 mg. per 100 ml.

Administration of whole blood was started along with 2.73 Gm. of fibrinogen. A sterile pelvic examination revealed an essentially closed, thick cervix with active, profuse, nonclotting bleeding. The membranes were ruptured artificially. Following the administration of 2,000 c.c. of blood and a total of 5.5 Gm. of fibrinogen the hemoglobin was 10.6 Gm. and the hematocrit 32, with a good Fibrindex clot in 32 seconds. Intravenous Pitocin had been started with the blood and ran for 12 hours. Frequent fibrinogen levels during this time revealed a return to normal. Sixty hours after admission, the patient's condition remaining stable, a dilation and curettage was performed with the removal of a large amount of placental tissue. It was necessary to make bilateral cervical incisions in order to remove an 18- to 20-week-sized macerated fetus. The patient received an additional 1,000 c.c. of blood during this procedure.

The patient's postoperative course was uneventful with minimal bleeding. She was discharged on her sixth hospital day, to be followed in the outpatient clinic.

Case 2. A. L., a 29-year-old white woman (P 2014), was admitted to the hospital at 37 weeks' gestation by dates, but with a known intra-uterine death since 28 weeks' gestation. She had previously been admitted at 30 weeks with excessive weight gain, edema, albuminuria and anemia. She was treated with bed rest, sedation, and blood transfusions, and was discharged after 10 days with a 13½ lb. weight loss. Weekly fibrinogen determinations in the outpatient clinic following discharge were as follows: 32 weeks, normal; 34 weeks, normal; 35 weeks, 240 mg. per cent; 36 weeks, 220 mg. per cent; and at 37 weeks, her day of admission, 117 mg. per cent. Over this period of time her blood pressure had progressively risen to 140/90 and was 134/86 on admission. She had heavy vaginal bleeding, low backache, and abdominal cramping with an estimated 500 c.c. of blood loss. The hemoglobin was 12.8 Gm. with a hematocrit of 38. One hour after admission she was given a unit of fibrinogen and a second unit 1 hour later, for a total of 5 Gm. Her fibrinogen level was 220 mg. per cent 4½ hours after admission.

The membranes were ruptured, and a Pitocin drip was started 5½ hours after admission; the patient had a precipitous delivery of a 1 lb. 7 oz. stillborn female 3 hours later with the loss of approximately 500 c.c. of nonclotted blood. The fibrinogen level at this time was again 117 mg. per cent. A unit of blood was started, but the patient went into shock a few minutes later with a blood pressure of 60/40. It required 2 more units of fibrinogen and 2 units of blood to stabilize the patient. Two hours later her blood pressure was 110/78, the hemoglobin 9.9, the hematocrit 31, and the fibrinogen level 227 mg. per cent. The subsequent fibrinogen determinations were all within normal levels. The patient was maintained on antibiotics and mol iron and was discharged on her fourth postpartum day, to be followed in the outpatient clinic.

Case 3. M. M., a 30-year-old white woman (P 4016), was admitted to the hospital at 30 weeks' gestation by dates with a history of a missed abortion at 18 weeks' gestation. In the ensuing weeks there was a gradual decrease in size of the uterus. Fibrinogen levels at 28 and 29 weeks were 250 and 230 mg. per cent respectively. On the day of admission a sudden gush of vaginal bleeding developed with the loss of approximately 150 c.c. of blood. No uterine contractions were present. The patient reported to the hospital, where pelvic examination revealed a softened cervix, dilated to 2 cm., with a uterus 8 to 10 weeks in size. Minimal vaginal bleeding was present on admission. A fibrinogen level at this time was 110 mg. per cent. The blood pressure and pulse rate were normal. Because of the laboratory findings, intravenous fibrinogen was started with a total of 5 Gm. Since uterine contractions had not begun 5 hours after admission, a Pitocin infusion was started and the patient passed an 8 cm. fetus with the placenta and membranes shortly thereafter. Postabortal bleeding was minimal. The fibrinogen level was 320 mg. per cent. The patient was discharged on her fourth postpartum day, to be followed in the outpatient clinic.

She was readmitted 108 days later because of fatigue and jaundice of 1 week's duration associated with myalgia, malaise, dark urine and headache. Physical examination revealed obvious jaundice, the liver 2 fingerbreadths below the costal margin, and cervical and axillary adenopathy. Laboratory studies revealed findings compatible with a diagnosis of hepatitis. These took 6 weeks to revert to normal levels. Since no blood or other medications had been given parenterally and the history was negative for contact with hepatitis, the patient was diagnosed as a case of homologous serum jaundice probably secondary to fibrinogen given intravenously 106 days prior to the onset of her symptoms.

COMMENT

These 3 cases, we believe, represent 3 degrees of severity of hypofibrinogenemia. Patient 1 represented the full-blown symptom-complex with the absence of clotting, shock, hemorrhage, and the absence of circulating fibrinogen by laboratory determinations. Patient number 2 after delivery was bleeding and near vascular collapse. She had evidence of some clot formation, but from a laboratory standpoint had a fibrinogen level below what most feel to be a critical level. Patient number 3 was admitted with the etiologic setup for developing hypofibrinogenemia, but the only manifestation of the disease was a falling plasma fibrinogen by laboratory determinations. All 3 patients responded from a clinical and laboratory standpoint to intravenous fibrinogen. Patients 1 and 2 needed adjunctive management with whole blood, 2,500 c.c. and 1,000 c.c. respectively. Patient number 3 needed no blood replacement.

From the immediate results it would appear that all 3 patients were managed successfully. However, late follow-up revealed that 1 patient, case 3, developed homologous serum jaundice of a moderately severe type 106 days following the administration of fibrinogen. We believe that since no other blood or blood protein therapy was used in this case other than fibrinogen, this latter substance can well be incriminated as the causative agent. However, it is interesting to note that the second patient was given fibrinogen from the same lot as in case 3 and is now 200 days postpartum with no evidence of jaundice.

We used Pitocin infusions in all 3 of these cases because we believe that it is indicated as a method of emptying the uterus after the membranes have been ruptured in the presence of hypofibrinogenemia. Duncan Reid[3] states that increased intra-uterine pressure will cause thromboplastin to be squeezed out into the circulation. We think that in the presence of ruptured membranes this will not occur with the use of Pitocin.

The method of management of patients with prolonged retention of a dead fetus is certainly one of conservatism, that is, watchful waiting, and, after 3 weeks, periodic plasma fibrinogen determinations. This course was followed in the presented cases when indicated. Articles published during the past few years and comments by Nicholas Eastman in the *Obstetrical and Gynecological Survey* have stated that, in the face of a falling plasma fibrinogen, intravenous fibrinogen replacement should be instituted and consideration given to emptying the uterus.

Pritchard and Ratnoff,[4] reporting on 23 patients with intra-uterine deaths and delayed delivery, found the plasma fibrinogen levels at delivery to range from 231 to 652 mg. per 100 ml. in the otherwise normal cases. When hypofibrinogenemia became clinically evident, the fibrinogen concentration fell below the critical level of 150 mg. However, their recommendation is that human fibrinogen and whole blood should be available but not given unless clinically indicated. The majority of reports do not agree with this degree of conservatism.

What about the incidence of homologous serum jaundice following the parenteral use of fibrinogen? Gibson and Anderson,[5] reporting on 152 patients who received 319 units of fibrinogen and 967 pints of blood, had 10 cases of hepatitis. Two of these died. All of the patients who developed jaundice also received blood. They had only 18 patients who received fibrinogen alone, and none of these developed hepatitis. However, in a subsequent personal communication Gibson does report 1 case of hepatitis in which fibrinogen alone was used. Fibrinogen is made from large pools of human plasma. Fibrinogen stocks available from the American National Red Cross represent pools of not less than 2,000 donors and in some cases in excess of 20,000 donors. It is packaged in doses of 2 to 3 Gm. each. We know by experience that the incidence of hepatitis following transfusion of whole blood is 1 per 3,000 transfusions and with pooled plasma may be as high as 5 to 20 per cent. The reported incidence of hepatitis following the use of fibrinogen is from 3 to 5 per cent. The mortality rate for post-transfusion hepatitis can be as high as 20 per cent. Since the hepatitis virus is still present in fibrinogen itself with the methods now available for sterilization, there will always be a calculated risk of hepatitis when fibrinogen is used.

In discussing the indicated use of fibrinogen as a therapeutic and prophylactic agent the counter-balancing factor of morbidity and mortality associated with hypofibrinogenemia must be considered. Prior to the advent of the therapeutic use of fibrinogen the syndrome was a highly fatal one and the patients who were salvaged often necessitated as much as 19 whole blood transfusions. When the coagulation defect became corrected, a successful outcome was often dependent upon whether or not a vital organ was involved in the hemorrhagic episode. This may include (1) death due to spontaneous rupture of the liver secondary to subcapsular hepatic hematoma, (2) Sheehan's syndrome secondary to deep shock, and (3) lower nephron nephrosis.

As we view the situation, the proposed question concerning the use and possible abuse of fibrinogen therapy in hypofibrinogenemia must at present remain an open one. Our trend is toward the more lenient use of fibrinogen.

DISCUSSION

SAM T. GIBSON, M.D.*: I wish I could give you some help on the problems that have been raised either locally or pictorially here as to the method of sterilization. It is not possible to heat the fibrinogen as albumin is heated to 60° C for 10 hours without denaturing the fibrinogen itself. Cutter Laboratories have prepared a fibrinogen with a slightly different method, still using ultraviolet radiation. This is the commercially available material. The 2 Gm. bottle of fibrinogen takes from 12 to 40 bottles of blood to produce, depending on how much fibrinogen is lost in the process. In other words, if one loses a whole batch from clotting, the production rate drops. This represents the saving of 20 or 30 bottles of whole blood when fibrinogen is available, but it has utilized a portion of that amount of blood to make this material available. The commercial material is available in 1 Gm. bottles; ours is in 2 Gm. bottles.

As to the use of the material, again figures are hard to come by since 1954; in something under 4 years we have distributed 5,800 bottles of fibrinogen. We imagine most of them have been used, having a 3-year dating period. We have only 1,600 cases reported (these amplify the figures that were presented to you by the speaker). In these 1,600 cases, 217 have sent us 6 months' follow-up reports, and of these there were 31 cases of hepatitis. This includes the figures given you in the paper. This is a more recent compilation. You can take it from there any way you want to; you assume that if the patient got sick the chances of a follow-up coming through are higher and that it would be an error to extend the ratio of 31 to 217 or one-seventh of the cases being reported as hepatitis to the great bulk of them, but this is a problem of statistics and follow-up on clinical cases. As reported, all but 1 of these have gotten complicating factors by having blood, plasma, and often Cutter fibrinogen. We confuse each other's series because the fibrinogens are made by 2 different methods. If you get both commercial and Red Cross fibrinogen you do not know which to pursue. I noted in the presentation that the instance of hepatitis for transfusion was given as 1 in 3,000. I think that is a very conservative figure. True incidence is difficult to establish. As high as 1 in 200 transfusions has been reported so that the difference by the whole blood figure and fibrinogen is not as great as it was once thought to be.

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I think one fact remains, that the reported or presumably found evidence of hepatitis from fibrinogen now is considerably less than that of the untreated material. All we can say is that treatment has certainly diminished the risks; it certainly has not eliminated it, but any human protein material that is used carries that risk with the exception of gamma globulin and serum albumin. In reviewing the cases I found that there was an unusual one that has not been put in the literature yet, and that was the woman who had premature separation of the placenta twice, 4 years apart, and received fibrinogen in both instances. The first time she was given 32 bottles of blood with some additional bottles of plasma (this was when fibrinogen was not very available); she finally got fibrinogen and 6 months later had hepatitis. She obviously came out of the initial episode. Four years later she was pregnant again and again had premature separation. Remembering the past experience, the doctor was not disturbed by the hepatitis; he gave the fibrinogen early and gave her no blood, and she did not have hepatitis. So this just goes to show you that we certainly cannot be didactic in advising about the use of this material. It certainly seems to have definite properties that make its use worth considering.

CAPTAIN D. A. CALLAGAN, M.C., U.S.N.*: I certainly enjoyed hearing this paper and Dr. Gibson's discussion. I am here not by virtue of any special work or experience with this syndrome, but we have had 4 cases of hepatitis in our community. There was 1 death, which was reported to the American Congress Regional Meeting here about 1½ years ago. One patient of our own developed hepatitis out of the 4 times that we have used fibrinogen. We used the commercial preparation. I think that, clinically, it has not been emphasized that this syndrome can be seen in the acute form that occurs with abruptio placentae or amniotic fluid embolism, and of course the diagnosis is not the question in these cases. The more chronic form that is seen typically in our specialty with the intra-uterine fetal death after 4 months' gestation and 4 or 5 weeks after intra-uterine fetal death is the problem. I think that in these cases the laboratory tests we have are sufficiently accurate, that they can predict in all the fetal deaths levels that will give us a guide for the clinical management, and that the onset is a decreasing fibrinogen level, which is a gradually progressive thing. There is a question in my mind that with this hazard of hepatitis no patients should receive fibrinogen without the clinical manifestation of hemorrhage which is the thing that we worry about.

The other point I wanted to make was that I think in our specialty this subject has been in the literature sufficiently that everybody is well acquainted with it and with the implications of using fibrinogen. However, there are still some of the other specialties that are not familiar with it. They have heard of it and that is about all. These discussions do not end up in the literature of other specialties. When fibrinogen first came out it was in relatively short supply, and it happened that our department had control of the quantity that was stored in our hospital. This week, just the day before I came up here, one of the ear, nose and throat men called me and said he understood that we had control of the fibrinogen. I said it was available and anybody could use it that needed it. I asked what the problem was. He said that he had done a tonsillectomy on a Navy nurse 10 days before and that she was bleeding and all of her other hematologic examinations had been normal and her fibrinogen, as determined by a Snider test, was 1 to 170. He thought that if he gave her a little fibrinogen it would stop. I proceeded to tell him about the 1 case of hepatitis we had had and the 1 death in town and the other 2 cases of homologous serum jaundice. Of course I did not hear from him any further with a request for fibrinogen. I think it is important that we become more familiar with its use and, with the very interesting figures Dr. Gibson has given us now, to pass this information along and perhaps exercise some control over its use in the hospitals and among other specialties.

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BIBLIOGRAPHY

1. Phillips, L. L., Montgomery, G., Jr., and Taylor, H. C., Jr.: Role of fibrinolytic enzyme system in obstetrical afibrinogenemia. Am. J. Obst. & Gynec., 1957, **73**, 43.
2. Ragan, W. D.: Acquired hemorrhagic diatheses of pregnancy: seven case reports. J. Indiana M. A., 1957, **50**, 984.
3. Reid, D. E., Weiner, A. E., Roby, C. C., and Diamond, L. K.: Maternal afibrinogenemia associated with long-standing intra-uterine fetal death. Am. J. Obst. & Gynec., 1953, **66**, 500.
4. Pritchard, J. A., and Ratnoff, O. D.: Studies of fibrinogen and other hemostatic factors in women with intrauterine death and delayed delivery. Surg. Gynec. & Obst., 1955, **101**, 467.
5. Anderson, H. D., and Gibson, S. T., in Hartman, F. W., and others, editors: Hepatitis Frontiers; Henry Ford Hospital International Symposium, 1956. Boston: Little, 1957.

ADDITIONAL REFERENCES

Dieckmann, W. J.: Blood chemistry and renal function in abruptio placentae. Am. J. Obst. & Gynec., 1936, **31**, 734.

Hodgkinson, C. P., and others: Hypofibrinogenemia and defects of coagulation. Obst. & Gynec., 1955, **5**, 465.

Reid, D. E., Weiner, A. E., and Roby, C. C.: Intravascular clotting and afibrinogenemia presumptive lethal factors in syndrome of amniotic fluid embolism. Am. J. Obst. & Gynec., 1953, **66**, 465.

CARDIAC ARREST AND CARDIAC RESUSCITATION

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THE OCCURRENCE of a cardiac arrest is one of the most formidable catastrophes with which a physician may be faced. Fortunately it is rare, occurring once in every 2,000 to 5,000 surgical procedures performed in a general hospital. Centers performing cardiac and vascular surgery note a slightly higher incidence. In our experience during a recent 7-year period 31 cases of suspected cardiac arrest occurred. Twenty-one of these were handled in the operating room (table 1) and 10 on the wards and in the admitting room (table 2).

Any physician, therefore, and not exclusively the surgeon, may be called upon to treat this dire emergency. Many of the attempts at resuscitation noted in table 2 and which occurred outside the operating rooms were treated by pediatricians and internists. Cases incident neither to anesthesia nor surgery but rather to acute myocardial infarction, accidental electric shock, or severe hemorrhage following trauma must be treated promptly by the nearest available physician.

The incidence of "cardiac arrest" at the Naval Medical Center was 1 per 4,123 surgical procedures. Although these statistics compare the number of "arrests" to total surgical procedures, it is to be emphasized that 7 cases (numbers 1, 5, 6, 7, 8, 9 and 10 of table 2) in this series were not directly attributable to surgery. Our overall survival rate is 34.4 per cent and in the more favorable circumstances of the operating room, 52.4 per cent. The latter figure increases to 68.8 per cent if five "hopeless" cases (numbers 5, 15, 16, 18 and 21 of table 1) are excluded.

The etiology, pathologic physiology, prevention and treatment of this condition have been well described in the current medical literature and will be mentioned only briefly. This paper will summarize the cases occurring at the United States Naval Hospital, Bethesda, Maryland, during the period from January, 1952 to January, 1959. Emphasis will be placed on the importance of a sound training program embracing the phases of prevention, teamwork and frequent drills so that in such an emergency prompt and effective action may be instituted.

Simply defined, "cardiac arrest" is the sudden cessation of detectable cardiac activity. This broad description emphasizes the clinical status of pulse and blood pressure which are the manifestations of effective heart action. Immediate corrective action should be taken at any time suspicion of "arrest" is entertained. Finding a feebly beating heart not completely arrested but which responds to a short period of "massage" should evoke no remorse.

"Cardiac resuscitation" is generally accepted as a term denoting restoration of the heart beat. The outstanding efforts of Dr. Claude Beck and his associates in this field deserve special mention. Stephenson[1] in a collective review reports 1,200 cases occurring prior to 1954 with a 28 per cent survival rate. With continued emphasis on prompt recognition and immediate treatment this survival percentage continues to improve. This increase is noted in spite of ever more frequent and desperate attempts to resuscitate hearts under unfavorable circumstances outside the operating suite.

TABLE 1

Cases Occurring in the Operating Room

Case No.	Patient	Age	Diagnosis	Contributing Factors	Operation	Myocardial Recovery	Time of Arrest	Patient Recovery
1	REM	11 mos.	Congenital megacolon	Hyperthermic reaction with respiratory depression	Swenson procedure	None	Recovery from anesthetic	No
2	MKD	47 yrs.	Mitral stenosis	Hypotension during anesthesia induction	None	Auricular fibrillation; preoperative rhythm	During anesthesia induction	Yes; mitral valvulotomy done later
3	LMH	28 yrs.	Neurofibromata, T 9 and T 10	Hypovolemia—received 3,500 c.c. blood during surgery	Laminectomy	Sinus rhythm	During surgery	Yes
4	DER	18 mos.	Tendon laceration	U. R. I.—under treatment with penicillin	Tendon repair	Sinus rhythm	During surgery	Yes
5	BS	3½ hrs.	Erythroblastosis	Premature separation of placenta and fetal distress	Exchange transfusion	Sinus rhythm	During exchange transfusion	No; died 1½ hrs. after arrest
6	DCR	3 days	Presacral teratoma	Sudden rupture of large tumor with associated hypotension	Excision of teratoma	None	During surgery	No
7	EHD	4 yrs.	Hypertensive cardiovascular disease	Sudden drop in B.P. from 240 to 120 after ligation of renal artery	Nephrectomy	Sinus rhythm	During surgery	No; died 9 hrs. after arrest
8	DKM	11 mos.	Congenital dislocation of hip	None determined	Derotation osteotomy	Sinus rhythm	During surgery	Yes
9	CAG	25 yrs.	Chronic pyelonephritis	Inadequate premedication	Nephrectomy	Sinus rhythm	During surgery	Yes
10	BMM	58 yrs.	Abdominal aortic aneurysm	Extubation followed by vomiting and aspiration	Excision of aneurysm and insertion graft	Sinus rhythm	Following completion of surgery	No; died 2 hrs. after arrest
11	AWT	24 yrs.	Stab wounds of heart	Pericardial tamponade	Emergency thoracotomy and repair of wounds	Sinus rhythm	Incision of skin	Yes
12	MES	5 mos.	Fibroma, rt. 5th finger	Cyanosis during anesthesia induction	None	Sinus rhythm	During surgery	Yes
13	MJP	31 yrs.	RHD, mitral stenosis	None	Commissurotomy	Sinus rhythm	During surgery	Yes
14	DNF	53 yrs.	Carcinoma of stomach	Wyamine administered 45 minutes before arrest	Total gastrectomy; splenectomy	Sinus rhythm	During surgery	Yes
15	HCW	71 yrs.	Liposarcoma, retroperitoneal; parasaggital meningioma	Meningioma	Exploratory laparotomy	Sinus rhythm	During surgery	No; died 2 wks. after arrest

TABLE 1—*Continued*

Case No.	Patient	Age	Diagnosis	Contributing Factors	Operation	Myocardial Recovery	Time of Arrest	Patient Recovery
16	CHS	63 yrs.	Bronchogenic carcinoma	Bradycardia and hypotension following ligation of right pulmonary artery	Right pneumonectomy	None	During surgery	No
17	SNB	50 yrs.	Osteochondroma, left ilium	None	None	Sinus rhythm	During anesthesia induction	Yes
18	EAM	6 mos.	Congenital heart with multiple uncorrectable defects	Profound congestive failure and anoxia	Cardiotomy, using heart-lung bypass	None	During wound closure	No
19	LD	68 yrs.	Abdominal aortic aneurysm	Borderline heart failure. Began to fibrillate when aortic flow was restored	Resection aortic aneurysm with graft replacement; hypothermia	Sinus rhythm	During surgery	No; had 2nd arrest during rewarming and died 7 hrs. after 1st arrest
20	JGM	39 yrs.	Ruptured intervertebral disc	Massive hemorrhage from iliac artery	Spinal fusion laminectomy; exc. I–V disc	Sinus rhythm	During surgery	Yes—following arterial repair and blood replacement
21	SRB	4 mos.	Subendocardial fibroelastosis	Progressive myocardial failure	Thoracotomy and "massage"	Sinus rhythm	During anesthesia induction	No; died 5 hrs. after arrest

The single underlying factor common to the majority of these accidents is anoxemia or at least hypoxia. Impaired circulation, impaired ventilation or a combination of both contribute to the decreased supply of oxygen to the heart and central nervous system. This progressive hypoxia sensitizes the heart, increases the circulation of epinephrine, and sensitizes the carotid sinus to inhibit cardiac activity.[2] It depreciates the enzymatic destruction of anesthetic agents, and the associated hypercapnia augments any vagal stimulation which may occur during operative manipulation.[3]

Prevention may be possible by careful attention paid to preoperative evaluation, individualization of preoperative medications, meticulous surgical technics, and careful observation of the patient during the early postoperative period. Oscillographic recording of the electrocardiogram is a valuable adjunct in monitoring the cardiac status during anesthesia and surgery and will permit early detection of adverse cardiac conditions.

Treatment involves 2 equally critical phases of endeavor, restoration of the circulation and adequate ventilation. These factors must be corrected simultaneously and with a delay of less than 4 minutes.

Ventilation via endotracheal tube with positive pressure and 100 per cent oxygen is the ideal. Mouth-to-mouth breathing is highly recommended as an efficient method of emergency artificial respiration. With the pleural space open it is absolutely necessary until adequate equipment arrives. The chest is entered by left intercostal, submammary thoracostomy. Manual cardiac compression will then circulate oxygenated blood. Pericardiotomy permits more effective compression as a rule; however, one should avoid injury to the phrenic nerve as it crosses

TABLE 2

Cases Occurring in Places Other Than the Operating Room

Case No.	Patient	Age	Diagnosis	Contributing Factors	Place of Occurrence	Myocardial Recovery	Patient Recovery
1	EVS	32 yrs.	Bronchogenic carcinoma	Pericardial involvement and tamponade	Ward	Sinus rhythm	No; died 7 hrs. after arrest
2	DGL	10 mos.	Pseudotruncus	None determined—chronic cyanosis and heart failure	Ward after Blalock procedure	Sinus rhythm	No; died 9 hrs. after arrest
3	GGW	30 yrs.	Congenital heart disease—pulmonic valvular stenosis	Apnea and arrest during bladder catheterization	Ward 1 day post-valvulotomy	None	No
4	BLS	50 yrs.	Rheumatic heart disease with MS, MI, TI, AS, and AI	Severe degree of heart disease	Ward 3 days post-valvulotomy	Sinus rhythm	No; died after a 2nd arrest
5	DJH	20 yrs.	Fracture left tibia and fibula, mediastinal and retroperitoneal hemorrhage	Irreversible shock	Admitting room	Sinus rhythm	No; died 3 hrs. after arrest
6	CDC	30 yrs.	Malignant melanoma	Metastases to lung, heart and brain	Ward	Sinus rhythm	No; died 3 hrs. after arrest
7	AWS	37 yrs.	Squamous cell carcinoma of lip	Myocardial infarction 6 hours after local excision of lip lesion	Ward	Sinus rhythm	No; died 20 hrs. after arrest
8	JND	17 mos.	Severe acute gastroenteritis	Hypernatremia—irreversible shock	Admitting room	None	No
9	GHB	30 yrs.	Coarctation and dissecting aneurysm of ascending aorta	Pericardial tamponade	Ward	Ventricular fibrillation	No
10	JLL	21 yrs.	Poliomyelitis	CNS paralysis, mechanical respirator temperature 107°F	Ward	None	No

the pericardium and to the underlying coronary arteries. Recognition of the dynamic state of the ventricles is important. Asystole is complete standstill, and this state may respond well to rhythmic compression. Ventricular fibrillation is a completely disorganized and ineffective type of activity which requires, first, "massage" to recirculate oxygenated blood, and second, electrical defibrillation. It has been our experience that electrical defibrillation is unsuccessful if attempted before the myocardium has been fully oxygenated.

Our experience is summarized in tables 1 and 2. Included are 2 cases (numbers 17 and 20) in which thoracostomy was promptly performed on suspicion of arrest. In these instances minimal myocardial activity, although present, was insufficient to produce a peripheral pulse, and "massage" in case 17 for a short time was sufficient to restore a good heart beat. In the other case (number 20) the heart beat was noted to be improving with rapid blood replacement, and "massage" was not necessary.

The cases have been arbitrarily divided into 2 groups by separating those occurring outside the surgical suite from those occurring within. Although attempts to resuscitate patients on the wards and in the emergency room have been performed promptly, we cannot report any long-term survivals. Reference to table 2 indicates that the heart beat was restored to a sinus rhythm in 7 of these extremely unfavorable cases. As yet we have not had an opportunity to utilize hypothermia as an adjunct in the post-resuscitation period, as recommended by Williams and Spencer.[4]

Since prevention is the best treatment for "cardiac arrest," it behooves every modern hospital to carefully plan a training program. We recognize that such programs must be tailored to fit individual circumstances. Although not necessarily ideal, our program includes the training of interns, residents, staff physicians, nurses and operating room technicians. A lecture to this group at least once a year, preferably at the beginning of the intern year, is the minimum that should be required. This lecture stresses the incidence, etiology and management of "cardiac arrest." All personnel likely to be confronted with the problem are instructed as to the location of available equipment necessary. It is helpful to have trays of such equipment strategically placed about the hospital. These are available in the main operating room, admission room, central dressing room, cardiac catheterization laboratory, each of the surgical wards, delivery room, and X-ray department. Each tray is wrapped with a conspicuous red wrapper and contains sterile gloves, scalpel, rib retractors, forceps, scissors, several sterile towels and sponges, and syringes with needles. Airways for mouth-to-mouth breathing, oxygen therapy equipment, and adjuvant drugs are also maintained in these areas.

In addition to a formal lecture, actual drills including laboratory demonstrations on laboratory animals with active participation by members of the hospital staff are employed from time to time. This type of training tends to overcome the natural reticence of those unfamiliar with thoracic surgery to open the chest and manipulate the heart. It trains personnel in the technic of cardiac compression and the use of the defibrillator. This far surpasses the didactic lecture.

In summary, this paper has reviewed the salient features of a problem about which most physicians would prefer to read rather than experience. Results of the attempts to resuscitate patients at the United States Naval Hospital, Bethesda, Maryland over the last 7 years have been summarized. Emphasis has been placed on the importance of indoctrination of all medical personnel in the phases of prevention and treatment of this all too frequent catastrophe.

BIBLIOGRAPHY

1. Stephenson, H. E., Jr., Reid, L. C., and Hinton, J. W.: Some common denominators in 1,200 cases of cardiac arrest. Ann. Surg., 1953, **137,** 731.
2. Blades, B.: Cardiac arrest. J.A.M.A., 1954, **155,** 709.
3. Sloan, H. E.: Vagus nerve in cardiac arrest; effect of hypercapnia, hypoxia, and asphyxia on reflex inhibition of heart. Surg., Gynec. & Obst., 1950, **91,** 257.
4. Williams, G. R., Jr., and Spencer, F. C.: Clinical use of hypothermia following cardiac arrest. Ann. Surg., 1958, **148,** 462.

CHANGING CONCEPTS OF DEAFNESS

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THE PAST 5 years have seen remarkable changes in the basic principles concerned with the treatment of deafness. Broadly, deafness is divided into perceptive and conduction types. Little change has occurred in the management of perceptive deafness. Lip-reading and properly fitted hearing aids continue to be the keynotes of therapy. With the hazards of infection largely controlled, however, more and more attention has been directed to restoring hearing in diseases of the conduction apparatus. This discussion intends to outline some possibilities of therapy in various types of conduction hearing loss.

In the age group of 1 to 20 infection continues to be the main etiology in hearing loss. Omitting the congenital perceptive lesions, and deferring for the moment discussion of ossicular dislocation or the occasional otosclerotic, deafness in this age group is a matter of infection. Antibiotics have proven their worth here, and one need only discuss the problem with a pre-antibiotic otologist to realize their value. A glance at the operative schedules of 1935 is even more illuminating when compared with the rarity of a mastoidectomy today. However, antibiotics alone are not enough, and there are pitfalls in overreliance which need discussion.

Most physicians agree to the need for a full 7- to 10-day course of antibiotics in acute otitis media. At the completion of therapy infection is consistently controlled but not always the hearing loss. Two conditions may exist—a serous collection in the middle ear or a thick purulent collection which is sterile on culture. Either of these will progress to adhesions and permanent hearing loss unless the middle ear is evacuated. Myringotomy is indicated, along with suction through the incision, plus inflation through the eustachian tube to remove all offending material. After this procedure careful follow-up is essential, since serous otitis has a distressing tendency to recur, a fact not yet completely explained.

At this point in treatment, after antibiotics and after myringotomy but with a recurrence of the serous otitis, further steps are necessary. Meticulous attention to the nasopharynx is needed, not always an easy task in young children, with removal of adenoid tissue and/or radiation therapy to the eustachian tube areas. If the serous otitis continues, and it frequently does, a simple surgical procedure is indicated. This consists of an incision in the external auditory canal, elevation of the skin, and insertion of a small polyethylene tube into the hypotympanum. The flap is reflected to hold the tube in place, and it is left for a period of 1 to 3 weeks. With this regimen chronic serous otitis can be controlled and hearing restored to normal levels. The rationale is to provide external drainage and at the same time aeration of the middle ear. When maintained over a period of time the eustachian tube can regain its normal patency.

In regard to the diagnosis, serous otitis is readily noted by the amber color of the tympanic membrane. However, a thick exudate may exist in the middle ear with little discernible change in the appearance of the drumhead. In such cases the most consistent finding is a dulling of the normal gray-blue lustre with fractionation of the light reflex. At times inflation through the eustachian tube is required to clarify the picture, and inflation is always indicated when there is doubt about the diagnosis. After inflation the tympanic membrane can be seen to bulge outward with a dull blue-white color, and perhaps a fluid level or bubbles. This appearance is diagnostic, and when noted, the above forms of therapy are essential.

Before proceeding to a discussion of restoration of hearing in chronic infection and otosclerosis, a few words should be said about one of the more unusual causes of conduction deafness—dislocation of the ossicular chain. In most cases head trauma is the etiology, although the shock wave from blasts has been identified in 2 specific cases. The diagnosis is made by a history of sudden hearing loss following trauma, bizarre appearance of the tympanic membrane, and the audiogram. Typically, there is found to be a hearing loss of about 45 decibels for all frequencies by air conduction, with the bone conduction at normal levels. This diagnosis should be suspected in all cases of hearing loss following head trauma, for, although there are many perceptive hearing losses after injury, the rarer case of ossicular dislocation is amenable to surgical correction. The two are simply differentiated by the Weber test; a tuning fork held on the vertex lateralizes strongly to the deafened ear when the lesion is conductive in type.

In the last 300 patients that have been operated on, 8 have proven to be due to ossicular dislocation. In all of these hearing has been returned to practical levels, and in 4 it has been returned to normal for all frequencies. One of the patients, deafened at the age of 5 after being kicked by a horse, was later able to qualify for the Navy's flight training program. The operation, which incidentally is perfectly feasible in children, is performed entirely through the external auditory canal. Incisions are made in the posterior canal wall, then the skin of the canal and the tympanic membrane are reflected forward. This approach is used in all operations because it allows direct exposure of the conduction apparatus. With the posterior half of the drumhead elevated, the incus and stapes are immediately brought into view. Under the high-power operating microscope, minute details of anatomy are clearly visible. In 6 of our cases the trouble was a dislocated or absent incus. Two patients showed normal incus and stapes but dislocation of the incudomalleolar joint.

Corrective measure consisted of putting a small piece of polyethylene tubing down over the head of the stapes, much as a cap is put on a fountain pen. The plastic is worked down over the head until it is stable, then the tympanic membrane is reflected back into its normal groove in the bony annulus. The tubing, about 5 mm. in length, projects upward into the drumhead. Sound is conducted directly from the tympanic membrane through the polyethylene tube to the stapes and thus to the inner ear. In certain cases the drumhead has been folded downward below the annulus to make direct contact with the head of the stapes. While this method is quite satisfactory, in our experience the use of polyethylene results in better hearing as well as a more normal tympanum.

This same principle of short-circuiting nonfunctioning ossicles to reach a functioning stapes is the basis of surgery performed for deafness due to otitis media. Anatomically, the stapes is protected from direct injury by the overhanging bony rim of the tympanic bone. Physiologically, the stapes is protected from infection by having no marrow spaces, being spared osteomyelitis which can erode and destroy the malleus or incus. In mastoidectomy the incus may be removed or dislocated, while the stapes remains in normal position, needing only connection to a functioning tympanic membrane for restoration of hearing. Effective control of infection has made possible this basic change in otologic surgery, and practically all procedures are now done with the idea of saving the hearing.

Perhaps most frequently seen is the persistent perforation of the tympanic membrane after active infection has been controlled. Hearing loss may be about 30 decibels in all frequencies with normal bone conduction. Closure of such perforations usually results in a substantial gain in hearing. Formerly it was thought that perforations of the attic area, those reaching the margins of the drumhead, and those involving more than a third of the pars tensa could not be closed. Now, however, it is possible to reconstruct practically an entire tympanic membrane. This operation (myringoplasty) in its simplest form consists of covering the defect with a full thickness skin graft. Under high-power magnification, it is possible to remove the outer layer of squamous epithelium from the drumhead and adjacent canal wall. This leaves a vascular bed to which the graft is applied, with a high percentage of "takes." As the new graft thins, there is growth of middle ear mucosa on its medial surface, the eventual picture being that of a normal tympanic membrane. At the same time there is usually a satisfactory improvement in hearing.

In many cases like those described there may not be the expected improvement in hearing because of adhesions, dislocation, or partial destruction of ossicles. A second stage operation is then indicated, connecting the new tympanic membrane either directly or by polyethylene to the functioning stapes. There are many ingenious operations (tympanoplasty) for performing all of the above in 1 stage, i.e., repair of the drumhead and the restoration of hearing, technic being varied according to the particular pathologic anatomy encountered. The basic principle remains the same—restore a tympanic membrane capable of transmitting sound waves and connect it to the stapes.

Possibly the commonest cause of conduction deafness, and certainly the one in which there is greatest hope of correction, is otosclerosis. The cause of otosclerosis is well known—an abnormal bony growth which characteristically involves the footplate of the stapes, restricting its movement and preventing transmission of sound impulses beyond the middle ear. Beyond this rigid footplate is a functioning inner ear, as evidenced by good bone conduction, and surgery for otosclerosis is directed at removing, replacing or by-passing this obstruction. There is as yet no proven etiology for otosclerosis. It is known to be most prevalent in young women; it characteristically gets worse with pregnancy; the ability to hear best in noisy places (paracusis) is noted; there is usually associated an annoying tinnitus; there is a familial tendency not related to mendelian laws of inherited traits. The diagnosis is an easy one—hearing loss by air conduction in the presence of normal tympanic membranes and good bone conduction.

The history of surgical treatment for otosclerosis is a fascinating subject. Many ingenious operations were devised and attempted prior to 1938, when the first practical 1-stage procedure was devised by Dr. Julius Lempert[1] of New York. His operation, fenestration of the horizontal semicircular canal, establishes a new pathway for sound to reach the inner ear, by-passing the fixed stapes. This operation continues to be consistently successful in thousands of cases each year, and due to further refinements by Dr. Lempert most of its disadvantages have been eliminated. In 1952 Dr. Samuel Rosen[2] of New York reported that he had been able to restore hearing in some cases by a direct approach to the immobilized stapes. This operation, while successful in a much smaller percentage of cases than the fenestration, was much less trying for the patient and frequently was spectacularly successful. Many refinements have been made in Dr. Rosen's original operation until now good hearing can be restored in a high percentage of cases, but the basic principles he propounded continue to be utilized in practically all stapes mobilization surgery.

With the availability of the high-power operating microscope further surgery on the footplate of the stapes became possible. Direct attack on the otosclerotic bone can now be made with minimal danger to the inner-ear structures. At the present time more than 300 operations have been performed at this hospital for otosclerosis. Three different surgical technics are used depending upon the type of lesion found in the middle ear. The first is suitable for cases in which the otosclerotic growth has involved only the anterior rim of the footplate. In such patients the hearing loss is not severe, about 35 decibels as a rule, and a sharp pick is used to cut through the abnormal bone. Direct pressure is then applied to free the stapes. Results of this procedure have been good, with a tendency to refixation on only a small percentage of cases.

The second technic used is the anterior crurotomy, suitable for cases in which there is more advanced involvement of the anterior portion of the stapes. This operation consists first of making a fracture across the center of the footplate behind the otosclerotic bone. The anterior crus of the stapes is then cut, in 2 places if possible, leaving the posterior crus attached to the freely movable posterior half of the footplate. Hearing has been consistently restored in cases suitable for this operation, and thus far there has been no tendency toward refixation.

The third technic was developed by Dr John J. Shea, Jr.[3] of Memphis and is designed for those cases in which the entire stapes footplate has been replaced by otosclerotic bone. Steps in this procedure are to remove the head and crura of the stapes; remove the mucoperiosteum from footplate, promontory and facial ridge; then with sharp picks an opening is made in the center of the otosclerotic footplate. At this point a small length of vein is removed from the back of the hand, cut into a square and placed over the new opening with the intima of the vein outward. A small piece of polyethylene tubing is used to connect the lenticular process of the incus to the vein overlying the new opening. Further details have recently been published by Dr. Shea in the *Annals of Otology, Rhinology and Laryngology*. This procedure has proven extremely effective in cases which would formerly have been hopeless by middle-ear surgery. The hearing is not only improved, but in most cases there is complete closure of the air-bone gap, and in our experience this is the only operation in which this can be accomplished.

In summary, the changing concepts in deafness have been as follows:

1. There is hardly a case of conduction deafness which cannot be helped by surgery.
2. Surgery to eradicate infection is combined with reconstructive methods to restore hearing.
3. Plastic implants can be used safely in the middle ear as a functioning part of the conduction apparatus.
4. Practically all perforations of the tympanic membrane can be closed by the use of skin grafts.
5. Otosclerosis can be successfully approached directly through the middle ear.
6. All of this surgery is done through the external auditory canal, usually under local anesthesia, and has a short convalescence with no surgical shock and little discomfort for the patient.

BIBLIOGRAPHY

1. Lempert, J.: Endaural, antauricular surgical approach to temporal bone; principles involved in this new approach; summary report of 1,780 cases. Arch. Otolaryng., 1938, **27**, 555.
2. Rosen, S.: Mobilization of stapes to restore hearing in otosclerosis. New York J. Med., 1953, **53**, 2650.
3. Shea, J. J., Jr.: Fenestration of the oval window. Ann. Otol. Rhin. & Laryng., 1958, **67**, 932.

EXTERNAL OTITIS: DIAGNOSIS AND TREATMENT

Case Presentations of Five Cases of Resistant Otitis Externa and Discussion of a New Approach to Therapy

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EXTERNAL OTITIS is a troublesome disease which is encountered frequently in the practice of otology, dermatology and in general practice. The purpose of this report is to relate our experiences with this disease and to present a regimen which we have found to be successful in its management. Five cases of chronic "resistant" external otitis are presented with a discussion of an unusually successful approach to this problem.

External otitis is not a specific disease of the external ear, but rather is a term applied to all dermatoses of the external ear and canal. The physician's approach to the problem then should be with the realization that the skin of the external ear is subject to most of the diseases that afflict other portions of the body's integument. An etiologic diagnosis is the first step to successful therapy, and there is no stereotyped treatment for all external otitis.

Etiology. The external ear canal is the only blind "sac" in the body lined with stratified squamous epithelium and has been endowed with an efficient protective mechanism for the preservation of its normal function. It provides an adhesive and bacteriostatic cerumen and maintains an acid pH of the skin which is also bacteriostatic. When this normal mechanism is disrupted we have potential otitis externa modified by host response. Host response is a vital consideration in the evaluation of this disease. The inept nature of the host response is seen most commonly in those people who repeatedly develop external otitis following swimming, and in those who cannot tolerate warm moist climates without developing this disease process. In these cases and in chronic external otitis the disease is usually bilateral. In the prophylaxis of external otitis one desires to reinforce these deficient host responses. The usual recommendations made are the use of Burow's solution or Burow's solution with alcohol during stressful periods and careful instruction on proper aural hygiene. Most authors agree that disruption of the external ear defenses occurs during the following stressful circumstances:

1. High humidity and temperature
2. Lipid or cerumen removal
3. Trauma
4. Complications of other dermatoses
5. Complication of otitis media
6. Foreign body

Frequently the etiology of external otitis is found in the supposedly benign procedure of lipid removal or cleansing the ear canals with soapy water, which removes cerumen, raises its environmental pH and macerates it. The unwarranted trauma and cerumen removal with cotton applicators to cleanse the ear canals, especially of children and infants, can only be condemned except when necessary under circumstances of professional diagnosis and treatment. The normal ear will cleanse itself if not disturbed, and all the cleaning ordinarily necessary is the removal of pooled cerumen in the cavum conchae.

When the normal defenses of the ear canal have been attenuated the skin is vulnerable to microbial invasion. Our experience has paralleled that of others in finding the *Pseudomonas aeruginosa* as the most common organism. Other common organisms found are the *Staphylococcus aureus*, *Proteus vulgaris*, beta-hemolytic streptococci, and fungi. Because of the predominance of bacteria on cultures the term "fungus" of the ear is a misnomer in 90 to 95 per cent of the cases.

Pathologic features. Grossly, external otitis is manifested by crusting, exudation, edema, and redness, singly or in various combinations. The histologic changes in the epidermis characteristic of this condition are hyperkeratosis, with some parakeratosis, acanthosis, intercellular and extracellular edema, keratin in the apopilosebaceous orifices and at times dilatation of the ceruminous glands with atrophy of the secreting cells.

Diagnosis. The patient with external otitis usually comes to the physician complaining of pain, itching, fullness, deafness, or discharge from the ear. Direct examination of the ear reveals either swelling, edema, redness, weeping, or discharge, singly or in combinations. With some acute external otitis there may be present the frequently described pain on manipulation of the auricle, but this is not the *sine qua non* of external otitis, since there may be no pain in some types of external otitis. To then place the objective disease which is seen into a working diagnostic classification is not always an easy task. Several factors may be etiologically significant, but a classification which we have found to be of use in diagnosis and in therapy is as follows:

1. Simple pruritus with no objective finding	Most frequently a contact reaction
2. Scaly, dry, atrophic skin with crumbly cerumen—usually only pruritus without pain and little swelling	Indicates chronic disease
3. Grey to grey-black wet "blotter paper" debris in the canal associated with varying degrees of pain, swelling, redness and pruritus	Usually indicates fungus infection
4. Lesions similar to lesions elsewhere on the body	Same diagnosis as the general skin disease such as seborrhea, psoriasis, lupus erythematosus
5. Redness, edema, exudation and pain. May have fever and high white blood cell count. Odor may be typical of staphylococcus or Proteus and appearance may be typical of Pseudomonas	Acute bacterial infection may be complication of any of the other listed types. May have etiology in acute or chronic otitis media with drainage.
6. Localized area of redness, tenderness, and swelling, frequently with central puncta	Furuncle of the ear
7. Lichenification of skin, eczematoid reaction about the auricle and periauricular area, and no evidence of cerumen and a long history of recrudescences or of continuous otitis externa	This is what we term chronic "resistant" otitis externa

Adequate gentle cleansing of the ear and external canal must be emphasized. Such processes as otitis media and foreign body may be missed without the good visualization obtained with adequate cleansing and it is of utmost importance in treatment of all otitis externa.

As demonstrated in the discussion of etiology, a bacteriologic diagnosis is important, and laboratory studies should be obtained when practical.

Treatment. In the treatment of external otitis we use the above classification in the approach to therapy. This classification of course does not include every case of external otitis seen, for we all know there are cases which defy classification. In general, though, if the above classification is used, one can produce a high degree of therapeutic success.

In type 1, or disease manifested by pruritus only, gentle and adequate cleansing with the administration of antihistamine is all that is usually necessary to give complete relief. If this fails, contact irritants must be searched for and eliminated. If there is a history of the use of soap and water to clean within the ear canal, the patient should be advised on the proper methods of ear hygiene, i.e., to remove only the accumulated cerumen in the cavum conchae.

In the second type, or disease manifested by the dry ear with crumbly and dry wax, the history is often most revealing. There is usually a history of unusual attention to the ears and the cerumen, with frequent manipulations within the ear canal with paper clips, pencils and soapy wash cloths. This ritual usually comes about because of previous difficulty with the ears or from habit started in childhood. In the therapy of this type of external otitis it is necessary to convince the patient that cerumen is hygienically good and serves a definite purpose. Gentle cleansing of the hard, dry cerumen at each office visit will usually result in great relief and at times "cure" if the patient coöperates with a "hands off policy." At times, if pruritus is marked, the use of a hydrocortisone lotion or ointment is necessary in conjunction with cleansing.

In the third type, or the grey to grey-black "blotter paper" debris in the external canal, careful cleansing is again necessary, combined with the application of Vioform with hydrocortisone ointment, but a word of warning is necessary. One should be alert to identify any change in the flora from that of fungus to one of bacteria or to complicating bacterial infections. We have found that pure mycotic infections of the ear canal are infrequent and are easily treated with the above form of treatment.

In the fourth type, or lesions similar to those elsewhere on the skin, the treatment centers around the clearing of the basic skin disease. When this is cleared up the external otitis usually subsides with the clearing of the underlying disease, although frequent cleansing of the canal is advised as concurrent treatment.

In the fifth type, with all the signs of acute infection, there is not always an immediately apparent etiologic factor found. A search for middle-ear disease, a retained foreign body, particularly in children, or traumatic punctures as the causative factor should be made. If this is unrevealing the entire integument should be examined to determine if there is other basic dermatosis which must be treated. There is often a systemic reaction with elevated leukocyte count and mild fever, and in this instance systemic antibiotics are recommended plus local therapy of heat and a tight Burow's solution packing if the pain and swelling are marked. This latter procedure is painful in the placing of the packs, but one is rewarded in rather prompt and effective relief of pain. Burow's solution may be applied to this packing, providing wet soaks to the regimen and producing an acid pH environment which approaches the normal physiologic hydrogen ion concentration. In this particular type of infection it is advisable to obtain bacteriologic cultures so that if there is not a good response to the antibiotics given a more suitable one may be prescribed as directed by the bacteriologic sensitivity studies. The treatment which we have applied to the less severe cases of this classification is the use of Cortisporin drops in the ear 3 to 4 times daily without the use of systemic antibiotics, and frequent thorough cleansing of the canal.* The neomycin and polymyxin in the Cortisporin are usually effective against all the bacteria found in external otitis. This form of treatment has proved successful, but we believe with a temperature over 99°F and a white blood cell count over 11,000 that this is not enough and the former method is used.

In the sixth class, or furuncle of the external canal, incision and drainage are all that is necessary for prompt relief when the infection is localized. It is usually not necessary to use anesthesia in the incision of the furuncles, since the pain is brief and not unbearable. The usual treatment of localized infections, consisting of heat, is also advisable after adequate drainage is established. Systemic antibiotics are not used routinely but are used when the infection is not localized. In cases of recurrent furunculosis, staphylococcal desensitization has proven successful.

In the seventh type, or the "resistant external otitis," we are presented with a real challenge. The patient usually has had the external otitis for several years and has been directed on a variety of therapeutic regimens, all of which have given variable and transient responses. We want to call special attention to this problem in this paper and outline our approach to it. We see 1,400 to 1,700 patients each month in our clinic, and in a 12-month period we have seen less than 20 of these patients, a fact which indicates that in the general otolaryngologic practice this condition is not a common one.

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* Recently we have encountered several instances of sensitivity reactions to neomycin, and we wonder if there are not more sensitivities which are being masked by the hydrocortisone.

A careful history is important in eliminating medications which have been unsuccessful. On the first visit culture and sensitivity studies are obtained. In the 5 cases presented, *Staphylococcus aureus* (coagulase-positive) was cultured as a mixed infection with gram-negative organisms. The patient is then placed on Cortisporin otic drops daily, even if this medication has been used previously. The patient returns twice weekly for careful cleansing and personal application of Cortisporin. All of the cultures of staphylococci thus seen have been sensitive to neomycin, so that the bacteriostatic properties of this therapy are known. In each case there was slight improvement up to a point after which there was no further progress. This point usually is reached in from 10 to 14 days, and discontinuing the above therapy has invariably led to a return of the initial status of the ears. Because we found no suitable therapy even with daily cleansings, Burow's solution applications, and various antibiotics, we attempted therapy with desensitization with staphylococcus toxoid as suggested by Hansel[1] in other types of infections. This type of therapy has proved very satisfactory in relieving the distressing symptoms of persistent foul discharge and pain. Normal cerumen formation has been noted in 3 cases, and beginning production in a fourth. The fifth patient is placed in the category of "therapeutic failure." There was benefit noted initially, but concomitantly with the withdrawal of staphylococcus toxoid the patient had an exacerbation of her symptoms, and a generalized psoriasis became evident and is now responding to treatment. In 1 case, that of a physician, the data are inconclusive as the patient was started on other forms of therapy concomitantly with the staphylococcus toxoid therapy. He is therefore not included in the case reports.

Several other cases have been started on this form of therapy, but inadequate follow-up precludes a complete evaluation. There was improvement noted with early relief of pain, decrease in swelling, and discharge. The following are 5 cases of resistant otitis externa which we have been able to follow completely. It should be noted that each patient was given at least 2 weeks of therapy with cleansing and Cortisporin otic drops to determine the efficacy of "conservative" therapy.

REPORT OF CASES

Case 1. The patient is a 38-year-old white man with a 13-year history of pain, pruritus and malodorous discharge from both ears. Hospitalization was required on 3 occasions, and his symptoms were intractable to all medications except systemic steroids, which provided partial relief. He was given medical compensation for this disease on his discharge from the service. The patient had 1 course of autogenous staphylococcal vaccine with slight transitory improvement. He was seen in our clinic 2 months ago with above complaints and a conductive deafness. There was prominent lichenification of the skin of the canal and auricle. Cultures revealed *Staphylococcus aureus* (coagulase positive). He failed to respond to cleansing, Cortisporin, and Burow's solution. He was started on 0.1 c.c. of 1 to 100 dilution of Lederle's Staphylococcal Toxoid.* Within 3 days hearing was normal, there was no weeping, and within 1 week there was no discharge or pain. The dosage was serially increased to 0.1 c.c. of the full-strength solution. Two months after his initial visit, cerumen production is evident, all swelling is gone. Lichenification of the auricle persists with mild pruritus.

Case 2. The patient is a 32-year-old white man with an 11-year history of intermittent bilateral external otitis. This had been treated with numerous medications during this time, including Cresatin, Burow's solution, and antibiotics, both systemic and topical, with variable and transient responses. One month prior to admission to this hospital the patient developed a severe, foul discharge from the ears, and a systemic reaction. He was placed on systemic chloromycetin without response, followed by an unsuccessful course on systemic Kanmycin, topical antibiotics and steroids including Cortisporin. He was transferred to the United States Naval Hospital, Bethesda, with the above symptoms. A culture revealed Pseudomonas and *Staphylococcus aureus* (coagulase positive). He was started on Cortisporin drops and 0.02 c.c. of intradermal Lederle's Staphylococcus Toxoid,* which produced an immediate 4-plus skin reaction. All succeeding bi-weekly injections of 0.02 c.c. also elicited a 4-plus skin reaction. Forty-eight hours after admission the pain was nearly gone, only a thin layer of exudate remained in the canal, and systemic symptoms were absent. Four days after admission the patient was asymptomatic except for slight pruritus and minimal exudate. Within 2 weeks the patient had incipient cerumen formation, and within 1 month the canals appeared normal with normal cerumen. A 3-month follow-up reveals that the patient is asymptomatic, and he has required no further treatment.

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* Lederle's Staphylococcus Toxoid, digest modified, 10,000 units per c.c.

Case 3. The patient is a 38-year-old white woman with a 14-month history of draining ears, pain and periauricular eczematoid reaction. On her first visit to the clinic she had a fever of 102° F and a leukocytosis. Cultures revealed *Staphylococcus aureus* (coagulase positive) with a mixed gram-negative flora. She was started on Neo Magnocort applications and wet dressings which gave some relief, but drainage, edema and deafness continued. Corticosteroids were started, but when ulcer symptoms developed these were withdrawn. The ears remained unchanged on Cortisporin. Neomycin sensitivity developed and she was changed to topical chloromycetin with no improvement. Three months after the initial visit she was started on 0.05 c.c. of Lederle's Staphylococcus Toxoid with a 3-plus skin reaction. In 3 days the ears improved. Three months of therapy with serial increases of dosage twice weekly to 0.3 c.c. gave excellent symptomatic improvement, and no sign of infection was evident, but the canals remained dry and free of cerumen. The injections were decreased to once weekly. When the dosage was further decreased to 0.15 c.c. once weekly her clinical picture regressed to that seen initially and a generalized psoriasis became evident. Treatment of the psoriasis, with continuation of the staphylococcus toxoid, reveals progressive improvement especially of her ears.

Case 4. The patient is a 35-year-old white man with a 10-year history of painful draining, itching ears which have been exposed to numerous types of therapy including Burow's solution and topical and systemic antibiotics with and without topical steroids, including Cortisporin with only temporary improvement. The patient was treated with Cortisporin and cleansings which gradually resolved the pain and stopped the discharge, but the pruritus persisted. When Cortisporin was stopped the pain and discharge returned within a few days. The patient was then started on Staphylococcus Toxoid, and within 2 weeks the canals cleared and remained clear with Cortisporin. Within 1 month the pruritus was minimal and the skin of the canals appeared healthy. Two months of treatment have produced normal-appearing canals with normal cerumen, and the only symptom is mild pruritus.

Case 5. The patient is a 23-year-old white female nurse who has had a 7-year history of recurrent ear pain, pruritus, and malodorous discharge. She was hospitalized on 1 occasion because of severe ear symptoms and systemic reaction. This condition has responded variably to the many conventional forms of therapy, some of which have abated the symptoms for periods of up to 2 months, but during this time there has not been any report of the observation of cerumen. On 3 occasions an acute flare-up was controlled on Cortisporin, only to flare up within a 2-month period following therapy. The patient was started on 0.05 c.c. of Staphylococcus Toxoid intradermally at twice-weekly intervals for a period of 5 weeks. During the past 3 months she has experienced no discharge or pain and has had only an occasional pruritus of the canal. Examination at this time reveals a normal-appearing canal with normal cerumen production.

Comment

It is an accepted fact that external otitis is a real problem in the general population. We have endeavored to present a brief working classification of this disease, which is varied in its presenting signs and symptoms, and we have discussed a therapeutic approach to the problem. The importance of gentle and adequate cleansing of the ear canals has been stressed in all types of external otitis. The extremely difficult problem of "resistant external otitis" has been handled in a new and probably controversial manner. One first notes that the desensitization is carried out in a rather unconventional manner in that the dosages are larger than usual. Our initial

(*Continued on page 418*)

BICIPITAL TENOSYNOVITIS

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THE ENIGMA of the painful stiff shoulder has been a source of much speculation by workers interested in the problem. Many and varied lesions have been recorded in the literature as probable causes. Calcareous deposits in the rotator cuff, chiefly in the supraspinatus tendon, and rupture of the supraspinatus tendon have long been recognized as common causative agents for this symptom complex. Meyer[1] was the first observer to point to the tendon of the long head of the biceps brachii muscle as a possible source of disorders about the shoulder joint. De Palma[2] has done extensive research on this subject and states that "involvement of the tendon of the long head of the biceps brachii muscle is by far the most common etiologic factor responsible for the symptom-complex." Although this concept is not in agreement with that of many workers interested in shoulder disorders, bicipital tenosynovitis is a well recognized clinical and pathologic entity.

It is believed that the basic underlying cause of bicipital tenosynovitis encountered in the second and third decades of life is some congenital abnormality in the bicipital sulcus or groove, such as the presence of a supratubercular ridge or a marked obliquity of the medial wall of the intertubercular sulcus which favors subluxation or even dislocation of the tendon out of the bicipital groove. Generally the syndrome is initiated by an insidious onset, although at times it is precipitated by strenuous activity. Initially the pain is localized over the anterior and medial aspect of the shoulder. It may radiate to the body of the biceps muscle, to the flexor surface of the forearm, to the insertion of the deltoid muscle, to the inferior angle of the scapula, and even to the base of the neck. The pain may be relieved by rest and aggravated by activity at first, but later it usually becomes more or less constant. The usual physical finding is exquisite tenderness over the intertubercular sulcus and on palpation of the biceps tendon. The clinical course in young individuals is characterized by recurrent attacks of pain, rarely of sufficient severity to cause serious dysfunction. Only occasionally does the disorder become protracted. In the patients seen in the third decade and older, although the symptoms and physical findings may be as described, the course of the disorder is frequently more protracted and more severe. It is probably due to degenerative changes in the tendon, together with the formation of bony excrescences in the bicipital groove.

Essentially the treatment of bicipital tenosynovitis is conservative. The application of local heat, preferably moist heat, rest of the part, and restriction of motion within painless arcs, together with the injection of Xylocaine and hydrocortisone (directly into the tendon sheath, under the transverse humeral ligament) will relieve pain and terminate the syndrome in most instances. As a rule, 3 or 4 injections at weekly intervals will produce the desired results.

Surgical intervention may be indicated when an adequate trial of conservative therapy has proved unsuccessful. DePalma[3] advocates obliteration of the tendon gliding apparatus by either reattaching the biceps tendon to the coracoid process, or stapling the tendon to the shaft of the humerus. He states that 80 per cent of his patients so treated attained an excellent or good result.

I have recently reviewed the cases of bicipital tenosynovitis that have had a bicipital tendon transfer operation at the U.S. Naval Hospital, Bethesda, Maryland. There were 18 such cases on record, but 3 of these were lost to follow-up.

Of the 15 patients studied 12 were male and 3 were female. The ages of these patients ranged from 19 to 53 years, with an average age of 35. All of these patients had symptoms of bicipital tenosynovitis, that is, pain localized over the anterior aspect of the shoulder or with radiation as previously described. All had tenderness to palpation of the biceps tendon in the bicipital groove. The duration of the symptoms prior to surgery ranged from 1 month to 20 years with an average duration of 1 to 2 years. All of these patients had received trials of conservative therapy, consisting of rest, heat, injections with Xylocaine and hydrocortisone, and physiotherapy when indicated. There had been some temporary relief in a few cases with these measures but no permanent relief.

At operation some abnormality was found about the biceps tendon in all cases. This varied from chronic inflammation, adhesions, and scarring of the tissues to thickening and edema of the tendon and tendon sheath.

These patients were asked if their symptoms had been relieved by the operation. Eleven, or 73 per cent, stated that their symptoms were relieved. Two, or 15 per cent, stated that they had attained partial relief. One stated that he had attained relief for 6 weeks, when his symptoms recurred. One stated that the operation had not given him any relief from his symptoms.

These patients were also asked if they had any pain in their shoulder at this time. Only 4, or 27 per cent, stated that they had no pain. Eight, or 53 per cent, said they had mild, intermittent discomfort, but usually of a type different from that experienced prior to surgery. Two of these patients, or 14 per cent, stated that they had moderate pain, and 1, or 6 per cent, had severe, intermittent pain.

We were interested in finding out if there was any significant postoperative functional disability, possibly as a result of the surgical procedure. Thirteen, or 88 per cent, of the patients stated that there was only occasional interference with arm motion. One of the 2 remaining patients had had a previous Putti-Platt procedure on the same shoulder as the bicipital tendon transfer. The other patient stated that he had considerable loss of motion due to pain and weakness.

The follow-up on these patients ranged from 6 years to 3 months with an average of about 8 months. These patients were asked if they were satisfied with the results of their operation. Eleven, or 73 per cent, stated that they were completely satisfied with their results. Four of the patients, or 27 per cent, were not completely satisfied. Two of these patients were female; both had bilateral involvement of their shoulders and only 1 side was operated upon.

It is interesting to note that on close analysis of these patients' charts it would appear that the patients who had had the most severe symptoms with a long trial of conservative treatment received the best results from the operative procedure.

Although this is a small group of patients, we believe this study indicates that there is a place for operative treatment in the therapy of bicipital tenosynovitis. Best results will probably be obtained if surgery is reserved for the patient with severe symptoms who has had an adequate trial of conservative therapy.

BIBLIOGRAPHY

1. Meyer, cited by De Palma.[2]
2. De Palma, A. F.: Surgery of the Shoulder. Philadelphia: Lippincott, 1950.
3. DePalma, A. F., and Callery, G. E.: Bicipital Tenosynovitis, in De Palma, A. F., editor: Clinical Orthopedics. Philadelphia: Lippincott, 1954, **3**, 69.

TORSION OF THE FALLOPIAN TUBE DIAGNOSED BY CULDOSCOPY

Report of a Case

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TORSION of a fallopian tube is uncommon and is seldom, if ever, diagnosed preoperatively because it produces no pathognomonic signs or symptoms.[1] A suggestive symptom-complex has been proposed by various authors,[2, 3] but on analysis the resulting "diagnosis" remains in the nebulous realm of clinical impression. A possible aid in diagnosis is cul-de-sac puncture and aspiration of a serosanguineous exudate, but this too leaves much to be desired.[1, 3] Kohl[3] in 1956 commented that culdoscopy may be presumed to be of value, but no cases are reported in which it has been used. Riva[4] in a personal communication notes that torsion of the fallopian tube has been diagnosed several times at the Walter Reed Army Medical Center. At the National Naval Medical Center torsion of a tube was observed culdoscopically and the diagnosis confirmed at laparotomy.

REPORT OF CASE

The patient, a 26-year-old gravida II, Para II (youngest child aged 11 months) white woman was in good health until 3 days prior to admission when she experienced the sudden onset of severe, colicky pain in the right lower quadrant which radiated low into the right side of the back and was associated with nausea and vomiting. The initial attack subsided shortly, but a steady ache persisted and was associated with superimposed intermittent recurrent bouts of cramping pain. Her last normal menstrual period began 20 days prior to admission on the evening of September 2, 1958. The menstrual periods had been unchanged. There was no vaginal bleeding or leukorrhea associated with the present illness. There were no symptoms of abnormal bowel or urinary function. Chills and fever had not been noted. Apparently a somewhat similar episode had occurred 10 months previously which had lasted several days and was diagnosed elsewhere (France) as due to "ovarian cysts." That attack subsided spontaneously.

The patient was well-developed and well-nourished and in moderate distress. The blood pressure was 100/70 mm. Hg, the pulse rate 90, the temperature 99° F, and the respiratory rate 18 per minute. The abdomen was flat and moved with respiration. On palpation there was guarding with muscular spasm and acute diffuse rebound tenderness over the right lower quadrant. No costovertebral angle tenderness was present. On pelvic examination the Bartholin's, urethral and Skene's glands were negative. Speculum examination revealed the vagina and cervix to be clean and normal. Bimanual and rectovaginal palpation showed the corpus uteri to be anterior, of normal size, and freely movable. Manipulation of the cervix caused referred pain in the right adnexa. An exquisitely tender, tense, right adnexal "cystic mass" was readily delineated, about 5 cm. in diameter. The left adnexa was negative. There was no bulging of the cul-de-sac and no edema or wedging of the rectovaginal septum. The tentative diagnosis was either torsion of the right ovary or hemorrhage into a physiologic cyst of the right ovary.

The hemoglobin was 15.4 Gm. per 100 ml., the hematocrit 49 per cent, and the white blood cell count 19,600 (neutrophils 78 per cent, lymphocytes 8 per cent, monocytes 11 per cent, and band forms 3 per cent). A urinalysis was normal.

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* Now residing in Los Angeles, California.

After hydration, sedation and observation for 8 hours the patient still complained of right lower quadrant pain and nausea. The pelvic examination remained unchanged as did the hemogram except for the adjustment to hydration.

Diagnostic culdoscopy was performed under intravenous Demerol (100 mg.) analgesia and local infiltration anesthesia. The ampullary portion of the right fallopian tube was readily recognized as having 4 twists in it and was of a dark hemorrhagic appearance. The right ovary was normal and distinctly separate. Under general anesthesia a laparotomy was performed through a lower midline abdominal incision. Examination revealed the right tube to be as described above. The mesosalpinx was doubly clamped, precaution being taken not to untwist the mass, and the tube was removed. The right ovary was normal, not intimately involved with the mass, and was left behind. There was no thrombosis of the regional veins. The remainder of the pelvic organs were normal. The abdomen was closed in layers.

The postoperative course was uncomplicated, and the patient was discharged on the sixth postoperative day.

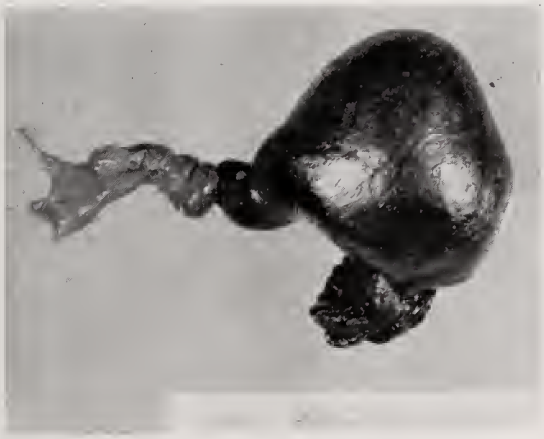

Fig. 1. Right tube with torsion and gangrene

The specimen removed at operation was a fallopian tube, the inner one-third of which appeared normal. Near the distal end 4 distinct twists were seen just proximal to a hemorrhagic necrotic fimbria (figure 1). On opening the mass a cystic cavity containing hemorrhagic fluid was seen (figure 2). Microscopic examination revealed a hematosalpinx with an attached paramesonephric duct cyst exhibiting early coagulation necrosis.

Comment

This patient had signs and symptoms suggestive of a lower abdominal lesion. The previous appendectomy, the normal menstrual history, the recent pregnancy, the absence of near prostration, the persistently normal red blood cell count and hematocrit tended to rule out appendicitis, ectopic pregnancy, pelvic inflammatory disease, torsion of the ovary, and hemorrhage from an ovarian cyst. The negative culdocentesis further corroborated these exclusions.

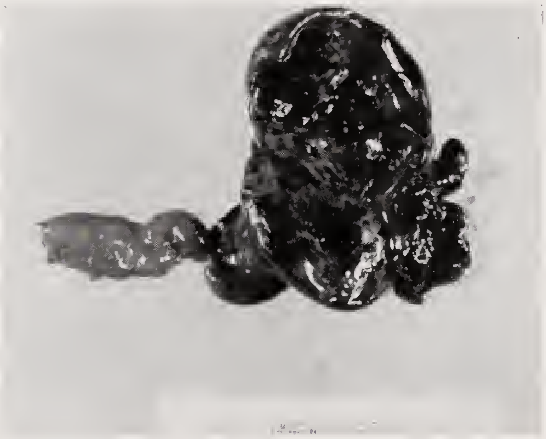

Fig. 2. Right tube, cut section, showing necrotic cyst

After hydration and a short period of observation the benign procedure of culdoscopy under local anesthesia was performed and the correct diagnosis readily made, allowing for early laparotomy and salvage of the normal right ovary before its blood supply could be impaired by a propagating thrombus.

Summary

Possibly the first case of torsion of the fallopian tube with the diagnosis established by culdoscopy is reported.

BIBLIOGRAPHY

1. Abbas, T. M.: Torsion of fallopian tube. Lancet, 1955, **1**, 128.
2. Peerman, C. G., Jr., and Williams, E. L.: Adnexal torsion; differential diagnosis. Obst. & Gynec., 1954, **3**, 523.
3. Kohl, G. C.: Torsion of uterine tube following Pomeroy sterilization. Obst. & Gynec., 1956, **7**, 396.
4. Riva, H. L., Walter Reed Army Medical Center, Washington, D. C.: Personal communication.

President's Page

RECONCILING DIVERGENT VIEWPOINTS

At a recent meeting of the Claim Men's Association, three members of the Medical Society took part in a panel discussion on mutual problems. While no problem was solved, the discussion gave some indication of the point of view of each group, especially those situations which annoy claim men most. This meeting was important for several reasons. The principal one is the increasing number of individuals who have accident and health insurance policies with commercial companies. The medical profession may expect to deal more and more with members of this Association. Even though the two groups may never reach complete agreement, it behooves each to try to understand the viewpoint and obligations of the other.

Some adjusters have expressed the opinion that they are entitled to free access to all medical records of a claimant, and that failure to have such free access hampers the insurance company in determining its liability. Others have stated that the insurance company is entitled to a prompt and definite estimate by the physician of the duration of disability in a recently occurring illness or injury. Apparently they overlook the fact that in many such instances the physician himself does not know the answer. The adjusters' desire for a fee schedule established by the Medical Society is understandable, but such a schedule would amount to price-fixing, which is unlawful. Others voiced the feeling that the Medical Society should act as arbiter in cases where the insurance company regards the fee charged by a physician as excessive, and, if necessary, the Society should force a settlement on the basis of the "usual charge" for that medical service.

These are a few of the considerations which indicate widely divergent points of view. While the adjusters' desire for such items as free access to all medical records, fee schedules, and forcing a physician to accept a certain fee in a disputed case, is understandable, such actions are beyond the purview of the Medical Society, and are not lawful. Some adjusters state that a few physicians charge an insurance company more than they would charge the patient. If this is correct, such a physician would find it difficult to justify this behavior.

The claim men had one criticism of doctors which is particularly annoying. They speak bitterly of their inability to get a few physicians to fill out insurance forms promptly. While not all of the dissatisfaction is on the adjusters' side, there is little excuse for a physician who does not properly fill out the necessary insurance form in a reasonable length of time and return it. What constitutes a "reasonable length of time" is not easy to define, but several days should suffice except under most unusual circumstances. To be sure some claim men, like some physicians, are impatient. But in all justice it would seem that in a majority of cases, the claim man is impatient because the physician is dilatory. None can, or will, condone a physician's needless delay in making reports to insurance carriers. It serves no useful purpose for the physician, in the privacy of his office, to berate an adjuster in particular and insurance companies in general while his delay is preventing the patient's claim from receiving proper consideration.

In the insurance company-patient relationship each group has legitimate complaints against the other. Each group would benefit greatly if their members would spend a little time trying to understand the viewpoint and problems of the other.

W. LeRoy Dunn

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Editorials

THE WORLD CHALLENGE TO AMERICAN MEDICINE

Alfred North Whitehead, the late mathematician-philosopher, said at one time, "No period of history has ever been great or can ever be that does not act on some sort of high idealistic motives. Idealism in our time has been set aside and we are paying the penalty for it."

An opportunity and a challenge are being presented to the American medical profession today to espouse idealistic and humanitarian motives, world-wide in extent, and universal in their implications. This opportunity is offered by the organization known as MEDICO, or Medical International Coöperation. MEDICO was organized a little over a year ago, on February 4, 1958, as a division of the International Rescue Committee. A national group of American physicians, devoted to international good will, and acutely conscious of the appalling discrepancy between medical care and practice in this country and the distressing medical condi-

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

tions prevalent in the rest of the world, especially in the newly developing countries of Asia and Africa, decided to go into effective action.

One of the compelling reasons for initiating MEDICO was based on the shocking appreciation of the fact that one-half of the world—over one billion people—from the moment they are born until they die have no access to medical care at all. There are areas in the world where the physician-population ratio runs from 1:20,000 to 1:200,000 and over. (The physician-population ratio in the United States is 1:700.) More than three-fourths of the people of the world, with the exception of Western Europe, the North American continent, and Australia, are born in poverty and misery, eke out an existence during the greater part of their lifetime in semi-starvation and semi-pollution, and if not crippled, blinded or deformed during infancy and adolescence by diseases long since preventable, die prematurely from illnesses which are curable in other more fortunate parts of the world. Epidemics of smallpox, diphtheria, cholera and typhoid fever, which are practically never seen in this country, rage sporadically and extensively in the villages and cities of Asia and Africa, taking an awesome toll of human life. From the Mediterranean to the Pacific, across the entire land mass of Asia, tuberculosis is the number one health problem in every country.

These constitute only a partial segment of some of the medical facts of 20th century life in the larger and more populous sections of the world. They cannot be easily dismissed or quietly deplored. They must be met realistically and pragmatically. The privileges of freedom and democracy cannot remain viable in an atmosphere of poverty, illiteracy, and consuming and persistent disease. The vast and wide chasm that separates the daily life of the American people from the despicable existence that constitutes the burden of the individual in more than three-fourths of the globe is a dire and dangerous situation that has not been sympathetically acknowledged or properly understood and noted by the great majority of the American people. There is not sufficient awareness that in the 20th century when we boast of our scientific advances, the largest element of humanity on this planet does not enjoy the minimum needs of basic subsistence. This is the medical and humanitarian challenge which presents itself to the American medical world today, and which MEDICO accepted one year ago when it was founded.

A part of this challenge has been met by international medical organizations such as WHO, ICA, and some private foundations. However, the main emphasis of all these existing medical organizations, with the exception of the religious missionary groups, has been along the line of public health, preventive medicine, and medical education. Until MEDICO came along, there had been no existing international medical machinery to utilize the services and talents of practicing physicians and private specialists in the United States. Here was a large, impressive pool of close to 200,000 physicians lying fallow while the world fairly shrieked its demands for more doctors for its unfortunate and sick millions. It is difficult to imagine and impossible to believe that American private medicine possesses little or no social conscience, no evidence of altruism, no humanitarian tendencies, and no regard for the medical problems in more than three-fourths of the world.

In MEDICO a means now exists which provides opportunities for the expression of these beneficent human qualities. MEDICO is acutely aware of the obvious fact—that the world has shrunk too much in the modern jet age to allow Americans to live "in an isolated mansion in the midst of world slums." MEDICO is fully cognizant that medicine has become a powerful instrument for international friendship. With medicine we can project our humanitarian impulses across national boundaries in a way often unrealizable by the desperately needed but frequently impersonal government aid programs. The rising expectations of the peoples of Asia and Africa for a better and a longer life have become the most dynamic human force in the world today. We can ignore this universal demand for freedom from disease, privation, and suffering only at the peril of our humanity, and our national existence.

The hand of the healer from time immemorial has inevitably formed firm and lasting bonds of friendship and affection between men. These emotional, intimate bonds between man and man are needed today more than ever. The men of medicine, in the spirit of Schweitzer, through the direct efforts of MEDICO, are extending their hands to peoples all over the world, offering no erudite philosophies, no shining utopias, no ultimate panaceas, and no economic supremacy. The men of medicine extend their hands hoping that the gesture will be accepted by the peoples of the world in kindness and in amity, in mutual respect, tolerance and understanding. In the achievement of these goals, the hopes for world unity and world peace will be inevitably advanced.

Peter D. Comanduras, M.D.

THE ESSENTIALS OF A SURGICAL CONTRIBUTION TO A MEDICAL JOURNAL

Most contributors to medical journals are prompted by a desire to add something to our knowledge, but it does not follow that the dimensions of the contributions bear any relation to their merit.

The enormous amount of publicity related to surgery seems to cover every phase of the subject and discourages the neophyte in his attempt to break through this literary cordon. It may be true that the elderly do not write enough and the immature write too much. Dr. Osler, in an address in Washington many years ago, said, referring to the penchant for writing, "Too much green fruit goes to market." However true that may be, green fruit, under proper temperature and atmosphere, may become palatable in time.

The report of a rare case is often the subject of a surgical paper and probably has its place in the *Archives of Surgery*, but it is not likely to be read with much enthusiasm or long remembered. Besides being rare it should have other attributes which commend it to the reader, such as an exceptional diagnosis, treatment, or result. Someone has said, "Deliver me from the doctor who dwells on one case."

In selecting a subject for elaboration into a readable paper which will receive consideration at the hands of the editor, it should be in keeping with the current trends of more than casual interest and carry a message if possible, unless it becomes a critical analysis or of historical value. A contribution based on a limited experience carries no weight. Fluency does not enhance the value of a paper. An introduction to the subject should be stated as simply as possible. The body of the paper should proceed in logical sequence, and the summary should be well developed, with emphasis on the highlight of the paper.

The bibliography should be accurate, complete, and checked against the references. Illustrations which warrant reproduction should be made by an artist or skilled illustrator, in conformity with the rules of the publication to which it is directed. Illustrations are expensive, and unless they supplement clearly the written word, they have no place in a medical journal.

Good writing is an art that is often inherited and sometimes acquired. Several textbooks* on the subject are available and should be consulted by embryo authors. The educational background does not necessarily provide the faculty for excellent expression in choice language. Abraham Lincoln was the author of some of the finest English ever written. Thoreau wrote, "The most attractive sentences are perhaps not the wisest, but the surest and roundest. They are spoken firmly and conclusively, as if the speaker had a right to know what he says, and if not wise, they have at least been well learned. Sir Walter Raleigh might well be studied if only for the excellence of his style, for he is remarkable in the midst of so many masters. There is a natural emphasis in his style, like a man's tread, and a breathing space between the sentences, which the best of modern writing does not furnish. His chapters are like English parks, or say like a western forest, where the larger growth keeps down the underwood, and one may ride on horseback through the openings."

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* See review of one of these in this issue.

C. S. W.

COMMEMORATIVE ISSUES

While we on the Eastern Seaboard are learning to gauge our tolerance of the day's temperature by the Discomfort Index, our friends in the Middle West have ignored both heat and hours in order to produce two distinctive issues of journals for the month of May. These are the Beaumont Memorial Foundation Number, published by the Michigan State Medical Society; the other is the Centennial Issue of *The Journal of the Kansas Medical Society*. The latter is in addition to the regular one and is indeed a labor of love, with no offsetting financial compensation in the form of advertising revenue.

The Centennial Issue is the *Journal's* contribution to the Centennial Celebration of the Kansas Medical Society, which was chartered by the Legislative Assembly of the Territory of Kansas in 1859.

Dr. Orville R. Clark, Editor of the Kansas *Journal*, and his staff have organized their material efficiently and lucidly into five sections of 20-year periods. Representative articles reproduced from the *Transactions* of the Society (1859–1900) and the *Journal* (1901–1959), along with many illustrations, point up the history and medical problems of each period. In addition, the Editorial Board has furnished an Introduction to each section, which gives the historical setting of the period to follow, including medical advances.

In the earliest section (1859–1879), it is not surprising to find articles on malaria, smallpox, and the disease that is still so much with us, cancer, all replete with case reports. As early as 1900 an article began: "Specialists have so encroached on the work of the general practitioner for some time that some defense seems necessary." Attendance at Medical Society meetings was a problem in both 1902 and 1910.

With the passing of the elegant 80's and the gay 90's, the motorized era begins. By 1909 the purchase of an automobile was still news, and buggies were being sold "cheap." Many of the articles make amusing reading today. Especially so is one entitled, "Automobiles in Country Practice" (1907), by Dr. L. Reynolds, who does "not advise any one to purchase an auto who does not endeavor to take the main care of it himself and learn all the adjustments," which may account for his later admonition: "I would not recommend an auto to a young single doctor to promote his interests with his best girl, as his attention is apt to be too much divided to do justice to either." But by 1917 the matter of "good roads" was important enough to appear as an editorial in the medical journal.

In 1921–40 the flying airplane was being frequently seen and the sulfonamides were being dispensed. The advisability of prescribing alcoholic liquors for therapeutic purposes in the face of prohibition was the subject of an editorial in 1931. Medical relief for persons on Federal relief marked the Depression Years.

The last section, 1941–1959, brings with it World War II and nuclear medicine. Prepayment medical care plans are coming to the fore through such corporate entities as the Kansas Hospital Service Association and the Kansas Physicians' Service.

The issue closes with a letter from Dr. Clark to the Editor of the *Journal* in 2059 A.D., in which he states: . . . "There is one thing which was basic in 1859, in 1959, and I think will be in 2059—to listen to a patient's story and to examine him. Some have had the idea that this was unnecessary, substituting laboratory and X-ray studies and 'miracle drugs,' but it just doesn't work. A century ago they had to examine the patients; we have to; and so will you."

It was just this triad of examining, observing and recording which brought fame to Dr. William Beaumont. Supreme Court Justice Felix Frankfurter, in a contribution to Michigan's Beaumont issue, stresses that Beaumont exhibited a lot of "pertinacity," which he considers an important characteristic for both lawyer and doctor. The Beaumont Memorial, built on Mackinac Island in 1953, is still unfinished, but the project was vitalized by the formation in 1958 of the William Beaumont Memorial Foundation. The romantic life of Dr. Beaumont while on Mackinac Island will be depicted by a series of dioramas, the first two to be ready for display in 1960.

The issue contains a beautiful reproduction in color, suitable for framing, of the painting of Dr. Beaumont by Mr. Deane Keller, the original of which hangs in the Beaumont Room of the Wayne County Medical Society in Detroit.

The "famous patient of a famous doctor," Alexis St. Martin, is the subject of a special article, the culmination of extensive research, by Dr. Edward H. Bensley, of Montreal, who is Chairman of the Committee on the Memorialization of Alexis St. Martin, Canadian Physiological Society, in addition to his many other offices.

Washington, D. C. has a valid claim on both the physician and patient. Dr. Bensley relates that in the fall of 1832 Beaumont went to Plattsburgh (New York) on furlough, where he was met by Alexis. "Beaumont resumed his experiments and again Alexis stayed with him for almost two years. The greater part of Beaumont's furlough was spent in Washington where Alexis was made a sergeant of a detachment of orderlies stationed at the War Department. This was done to ease the financial burden on Beaumont. . . . On the expiry of his furlough in 1833, Beaumont was ordered to New York City and later to Plattsburgh."

Dr. Alfred H. Whittaker, of Detroit, has contributed a list of centers of Beaumont interest, which includes such diversified recognition and locale for Dr. Beaumont as the Beaumont Museum at Prairie du Chien, Wisconsin; Beaumont Medical Club at Yale University; and collections of William Beaumont correspondence and artifacts at the University of Chicago, Middlebury College (Conn.), the Osler Library at McGill University (Montreal), Washington University (St. Louis), Old Fort Howard Museum and Kellogg Public Library in Green Bay, Wisconsin, and the William L. Clements Library at the University of Michigan.

Undoubtedly there is even wider recognition of Dr. Beaumont than the list prepared by Whittaker would indicate. George Washington University has its William Beaumont Medical Society, an honor society for medical students showing unusual ability, which was founded to encourage medical writing and research among medical students.

Sir William Osler, who contributed greatly to the appreciation of Beaumont, was at McGill University in Montreal when St. Martin died. He tried unsuccessfully to obtain permission for an autopsy and to secure the stomach for the Army Medical Museum in Washington.

To round up the issue, there are several articles relating to gastroenterology which bring the reader up-to-date information in this field in which the famous Beaumont pioneered.

My wish is that the Kansas Medical Society will have as able and dedicated personnel in 2059 as they do in this Year of Our Lord, 1959.

The enthusiasm, vigor and devotion brought to the practice of medicine throughout these first hundred years, as revealed in this documental issue, cannot help but constitute a firm foundation for the future of medicine in Kansas.

The Beaumont Number of the Michigan *Journal* is one of a series of special dedicatory numbers. The Editor and his staff and members of the Society are to be congratulated on this outstanding issue. Such issues are time-consuming projects, and Michigan has made a real medical and historical contribution by its Beaumont Number.

A. L. E.

ANNUAL REPORT OF PRESIDENT OF MEDICAL SERVICE*

Annually for 12 years the newly elected Board of Trustees of Medical Service has met to organize itself. After my 7 years as your President my successor will be elected by you tonight and my position among you will be ex officio as Chairman of the Board of the National Association of Blue Shield Plans.

This report summarizes the statement I made April 29 to our Participating Physicians and adds some serious comments on our special duties for the period just ahead.

This Board has acted with rare but fine unity during all of my association with it. Every new member over the years has quickly accepted the philosophy of service to the whole Plan and not just a special segment; to the whole community and not just a group of patients or doctors. This is a tribute both to the high caliber of men who have joined this Board and to the compelling force of service in this field of endeavor which has molded all into faithful laborers, side by side. I salute you all for work well done.

It is natural that a prepayment plan should be deeply involved in any broad concern about the costs of medical care. There are many factors which contribute legitimately to increasing rates for prepayment. The Board must isolate and explain these factors in a satisfactory way. On the other hand, a stern stand must be made against the improper and selfish use of rate-making authority. Blue Shield is not, and must never be, simply a collection agency for doctors able to increase charges at will. Instead, Blue Shield is a fiscal agency sensitive to the leadership of the profession in providing prepayment to serve the entire community on terms that are fair to doctors.

The constant demand for broadening the scope of benefits and for covering services not now included is a call which must be answered but with a rate change to support significant broadening. For the public has shown willingness to pay more for more benefits.

The Board should explore the possibilities and advantages of using a properly balanced relative value schedule to establish several bands of subscriber income level with proper fees established for each by varying the value of the unit. This might apply to schedules of fees the principle of charging according to ability to pay in a better degree than we have ever seen. This would equitably enlarge the total group entitled to service benefits and thus strengthen Blue Shield in its most characteristic aspect, but also it would permit a fairer rate for the low-income group who now find subscription rates moving beyond their reach. Also, since a very special part of the whole group with low income is the segment of low-income aged, it is particularly important to solve the problem of offering them honestly effective prepaid health care within community framework. For the aged it will be necessary to make the difficult choice between a special program which, standing alone, must support itself and a more general program keeping the aged included at the community rate and thereby subsidizing them in some degree. This latter choice seems preferable if a generally applicable program can be offered to low-income subscribers of all ages at reasonably low rates.

To reach a good solution the Board must develop a broad plan to include ultimately all of the relatively neglected groups (and individuals) for more services and at realistically reasonable rates. Furthermore, the Board must actually lead with vigor as well as vision in establishing such a broad system of coverage.

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* This is a summary of the President's Report to the Board of Trustees, May 12, 1959, including material from the report presented at the Eleventh Annual Meeting of Participating Physicians of Medical Service of the District of Columbia, April 28, 1959.

We are constantly finding new evidence that physician relations both locally and nationally are perhaps the most important factor in the successful operation of Blue Shield. Our own relations here are good, and this is a tribute not only to our Board but to the members of our committees and all of the many physicians striving beyond their own personal relations to make this Plan work.

Here in Washington we are more conscious of our legislative contacts and they mean more to us than to most Plans. The position of National Blue Shield on proposals to amend the Social Security law is well known and is supported by Medical Service.

There seems to be more likelihood than ever that this year we may have a law under which the Federal Government will aid its employees to obtain better health insurance than they now have. For the Washington area this might well mean that most Federal employees would have our "comprehensive" program of prepayment coverage for health benefits, adding our Major Medical to the commonly held basic coverage. The position of National Blue Shield in regard to this proposed legislation has always been held with keen concern for the needs of Medical Service.

Medical Service has joined with most of the other Plans in this country in subscribing to the Blue Shield National Accounts Agreement which is becoming the tool by which our most effective approach to large groups can be made. Coupled with the "Service Benefit Principle" in extended form this agreement offers perhaps the best hope for organized medicine in its relations with panel practice plans.

Good relations between Blue Shield and Blue Cross are essential to the growth and development of both groups. It is gratifying that this relation here has always been a fine one and the success of both Plans is a tribute to this coöperation. In this connection it might be noted that our excellent relations with the insurance industry are based upon our understanding of the differences between us. To the extent that it is a physician coöperative with service benefit agreement as the price of local control, Blue Shield is more than simple insurance.

Here, as everywhere in Blue Shield, we realize that there is no job so important as the cultivation of our leadership. This movement from the beginning has been a crusade. It must be revitalized constantly through the dedication of its leaders. They must have vision to see the road that medicine must follow, for theirs is the burden of medicine's economy in an age of economic revolution.

DONALD STUBBS, M.D., *President*

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, May 25, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Salomon N. Albert, 828 South Wakefield Street, Arlington, Va.
Francis A. Board, 7813 Maple Ridge Road, Bethesda, Md.
Charles Howell Clark, 4707 16th Street, N.W.
Harry L. Day, 4501 Connecticut Avenue, N.W.
Charles E. Edwards, 1324 35th Street, N.W.
Leo P. Hennigan, Veterans Benefits Office
Ruth Kerr Jakoby, 2120 16th Street, N.W.
Arnold A. Lear, 1302 18th Street, N.W.
Gerald E. Meerkreebs, 4117 W Street, N.W.

Associate Members

Otis L. Anderson, 6607 Broxburn Drive, Bethesda, Md.
Recep Ari, 2227 Wisconsin Avenue, N.W.
Ottavio Gelmi, 915 19th Street, N.W.
Kenneth M. Moser, 4002 E Street, S.E.
Thomas F. O'Connor, 4861 Battery Lane, Bethesda, Md.
Annemarie Wanko, 4606 Maple Avenue, Bethesda, Md.

The following applicants for membership will be voted on at the meeting of the Executive Board, July 27, 1959.

For Active Membership

George A. Boinis, George Washington University—1957
Francis X. Carillo, Georgetown University—1952
Stephen W. Dejter, George Washington University—1954
Orville W. Donnelly, George Washington University—1957
Irene E. Roeckel, Heidelberg University—1948
Harold C. Sadin, Albany Medical College—1952
John Harmer Sager, George Washington University—1952

For Associate Membership

Elizabeth Wann Chu, Shanghai Medical College (China)—1946
John H. Edgcomb, University of Chicago—1946
Charles J. Everding, George Washington University—1950

REPORT OF THE COMMITTEE TO STUDY AMA OBJECTIVES AND BASIC PROGRAMS*

Members of the House will recall that our Committee was requested to study 4 subjects: (a) redefinition of the central concept of AMA objectives and basic programs; (b) placing more emphasis on scientific activities; (c) taking the lead in creating more cohesion among national medical societies; and (d) studying socioeconomic problems. This report sets forth our Committee's recommendations on these 4 topics.

Your Committee's report is based on many informal conversations by members of the Committee, personal correspondence, the 1,600 selected quotations (Appendix A), the statistical analysis (Appendix B), and some 90 letters attached to the returned questionnaires.† We are not reporting the results of a scientific opinion poll. The Committee wishes to make it clear that this report represents the views of the 6 members of the Committee aided by the materials furnished to it. At this time, we wish to thank the many members of the Association and a considerable number of nonmembers for their assistance.

The Setting

The Committee wishes to point out that any consideration of the 4 matters referred to it is circumscribed by the times in which we live. Medicine itself is changing rapidly; so rapidly that it seems to be exploding in many directions. The pace of advance in the science and art of medicine constantly amazes all of us. A year seldom passes without a new medical organization or health agency being born. Performance over a period of years may be necessary to determine whether these new organizations or agencies are genuinely medical or largely devoted to fund-raising. This rapid pace of change has many other manifestations in our field of endeavor. Indeed, historians may record that the greatest accomplishment of the 20th century was that men learned how to die old instead of young. Apparently this greatest period of rapid mortality decline has run its course as the expectation of life at birth is now creeping upward very slowly from 69 years to 70 years. A continuation of the earlier rapid rise in this important statistical measure of life awaits further important developments in the medical management of the diseases of older life.

Part A

(*Redefinition of the central concept of AMA objectives and basic programs*)

As a result of these observations, your Committee concludes that the membership of the AMA is convinced that the sociological and economic trends and conditions of today constitute an important aspect in the medical care of the patient and of the practice of medicine. Along with medical education, diagnostic medicine, therapeutic medicine, preventive medicine, Public Health medicine, and medical research—the art and science of medicine—sociological and economic aspects are integral parts of the unlimited health care of the people.

We, therefore, recommend that this House of Delegates consider the advisability of amending Article II of the Constitution by this substitution: "The objectives of the Association are to promote the science and art of medicine and the betterment of public health, and an understanding of the socioeconomic conditions which will facilitate the attainment of these objectives."

Additional suggestions in the socioeconomic area are presented later in this report.

Part B

(*Placing more emphasis on scientific activities*)

The second area, Part B, which the Committee was asked to investigate was scientific activities. Our broad interpretation of this was that we were to advise the House as to whether the scientific activities of the Association were generally adequate, generally inadequate, or about right.

The conclusion of Part B on the subject of whether our Association should or should not place more emphasis on scientific activities is that there are no widespread dissatisfactions with the Association's present emphasis on scientific activities as a whole, so far as is revealed by a mere count of the replies of the respondents. But the selected quotations (see Appendix A) and our own observations indicate some measure of dissatisfaction. Scientific progress is never-ending. Your Committee strongly advises the Board of Trustees to give serious consideration to the establishment of some more effective mechanism to insure continued study of the scientific activities of the Association with the ultimate intent and purpose of revamping and otherwise changing them as deemed necessary. Your Committee understands that there is already a "special committee to study scientific activities," but it is believed that the scope of the "special committee" is too limited. This thought about the scope of a study of scientific activities of the Association will be more fully developed in a section of this report to follow.

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* Presented to the House of Delegates at the Clinical Session of the American Medical Association, December 2–5, 1958, in Minneapolis, Minn.; reprinted and abridged from the J.A.M.A., 1959, **166**, 1077–83.

† The historical background and appendixes to the report are available for study on a loan basis and may be secured by writing to the American Medical Association, Economic Research Department, 535 North Dearborn Street, Chicago 10, Ill.

PART C

(*Taking the lead in creating more cohesion among national medical societies*)

The third part of the Committee's assignment was to examine the need for creating more cohesion among national medical societies.

In the light of what the Committee learned from the responses to Part C, from the phrases excerpted from the replies to the other parts of the questionnaire, and on the basis of our own observations and discussions with a wide variety of physicians, we recommend that a more thorough study should be made of our relationships with other national medical organizations with a view to improving them and to reasserting AMA leadership in socioeconomic areas particularly and to the maximum extent in scientific areas.

In order to accomplish these objectives, we recommend that the Board of Trustees in establishing a mechanism for the continued study of the scientific activities of the AMA insure that that mechanism will assume the responsibility for establishing active liaison with each national medical society. The intent of this liaison should be to explore all fields of interrelationship between the AMA and the national medical societies. There should be an attempt to define the area of activity of each organization. In the scientific fields the role of the AMA might be primarily that of coördination between the special fields of scientific interest of the other national medical organizations. Improved cohesion between these organizations and the AMA could result if the AMA were to abolish its scientific sections and invite these national organizations to furnish the specialty and General Practice programs at each annual session. This possibility at least deserves study, and if it were to prove practicable, the participating other national medical organizations might be given the representation in the House of Delegates vacated by the scientific sections as they are abolished.

In view of the many comments in Appendix A concerning the voluntary health agencies, it is equally important to insure that the mechanism for continued study of scientific activities of the Association include provision for the establishment of close liaison with those health agencies for the mutual benefit of the agency, the profession, and the public.

PART D

(*Studying socioeconomic problems*)

The fourth part of our assignment was to study socioeconomic problems.

Your Committee concludes that the AMA should not "limit itself to matters of prime concern to the health of the people of the Nation" (policy A as referred to in the questionnaire). It should "interest itself in socioeconomic factors which affect the health of the people of our Nation and the practice of medicine" (policy B). Supported by the results of the returned questionnaires and other sources, we would conclude that the AMA should not interest itself in "socioeconomic issues whether or not they directly affect the health of the people of our Nation or the practice of medicine" (policy C).

We submit that a comprehensive history of the American Medical Association would indicate that policy "A" was favored in an earlier era. Indeed, we believe that policy "C," the almost unbounded scope of socioeconomic interest, may well be the policy toward which our Association is now moving. Obviously, a constantly increasing number of our members realize that good health is dependent not only upon good medical care but also upon good food, good clothing, good housing and good sanitation as well, and that their dual responsibility as physician and citizen makes imperative an active participation by their Association in any and all legitimate activities directed toward that goal. We commend these findings to this and future sessions of the House of Delegates without specific recommendations for changes in the Constitution or the establishment of a 10-point or 20-point socioeconomic program.

The tremendous emphasis in this questionnaire survey on socioeconomic policies was one of the surprises to our Committee. It seems that no matter which questions we asked about objectives and policies, and/or how we worded them, the socioeconomic aspects were somehow emphasized by respondents. No longer can it be claimed that our Association is not interested and should not be interested in socioeconomic factors of American life.

General Conclusions

In the foregoing we have set forth our findings, suggestions, and some recommendations on each of the first three topics which you assigned to our Committee. We turn now to more general conclusions including our recommendations on the fourth topic.

First, the members of the Committee were in unanimous agreement that it should be discharged although the task is not finished. Indeed, our studies definitely indicate this to be a continuous task. A reasonably complete set of recommendations would require more study and consideration of the setting provided by the rapidly changing medical, economic, social, and political events of our times, such as a continuous study would eventually reveal. Periodic self-examination is highly desirable, especially at this juncture in the development of our Association, the practice of medicine, and the rapidly changing social scene in the United States.

Second, we recommend the establishment for a period of 3 years of a Council or Committee on Socioeconomics to investigate socioeconomic and related problems with which the Association is likely to be confronted in future years. This council or committee could be of 5 members who should be appointed by our President, the Speaker of our House, and the Chairman of our Board of Trustees. This council or committee should have power to hold conferences with any and all individuals or groups who might develop ideas of aid to our Association and its purposes. This council or committee should report to the Board of Trustees and to the House of Delegates. During its 3-year tenure, this committee or council should find its place in our Association activities, and the House and Board of Trustees should review its work thoroughly before its activities are continued beyond the 3-year period. Your Committee hopes that the materials we have provided will chart a course for this new council or committee.

Third, your Committee recommends that the Board of Trustees give serious consideration to opening the publications of the Association to a free and open discussion of socioeconomic problems applicable to medicine. Members and officers of the Association should be encouraged to contribute items to this section of the publication, or publications; and a special invitation should be extended to the many able persons on our Headquarters' staff. In the words of a member of our Committee, "We must restore to our members the feeling of belonging." We must not stifle constructive criticism; forward-looking discussions of any and all future problems should be made available to our members.

The Committee is thoroughly convinced that the AMA must vigorously reassert its leadership in American medicine. We must cease the splintering tactics so disastrous to French politics. We must not become a disorganized profession. A more vigorous and more deliberately developed socioeconomic program toward this end is imperative.

James Z. Appel, M.D.
Thurman B. Givan, M.D.
Hugh H. Hussey, Jr., M.D.
Raymond M. McKeown, M.D.
Milford O. Rouse, M.D.
Lewis A. Alesen, M.D. *Chairman*

Cancer Page

CANCER AND CERTAIN ORGANIC DISEASES

In certain diseases which are primarily organic, the physician may be concerned with the probabilities of a coëxisting cancer in arriving at the original diagnosis or during the clinical course of the disease. The combination of cancer with other diseases has, at certain times, been unduly stressed, while in other instances the growing clinical evidence has not been given sufficient recognition to caution the clinician.

Whenever a patient is seen with unexplained recurrent thrombophlebitis, a thorough investigation should be encouraged to find a cancer somewhere in the body, especially visceral cancer. Trousseau, the master clinician, and later Sir William Osler commented on this combination. In a series of 102 cases collected from the literature cancer of the pancreas was found in 41 instances, of the lung in 22, of the stomach in 14, and elsewhere in the body in 25.

The physician taking care of patients with pernicious anemia should have concern about the possibility of cancer of the stomach. Using a comparable population of patients with necropsy the incidence has been compared. In 12.3 per cent of the patients with pernicious anemia cancer of the stomach was found, an incidence 3 times as great as cancer of the stomach in patients of the same ages in the rest of the population.

The differential diagnosis of cancer of the colon and diverticulitis may be difficult; however, the coëxistence of diverticulosis or diverticulitis and cancer in the sigmoid colon has been considered quite rare. In 20 years' experience at the University of Rochester Hospitals only 18 patients with both diverticulitis and cancer of the sigmoid had been found. In another series there were only 3 cancers among 1,800 cases of diverticulosis. In 1 report 118 patients had both cancer and diverticulitis.

Analysis and follow-up studies revealed a significantly poorer prognosis for these patients than those with cancer of the colon alone. Although the combination of diverticulosis and cancer of the colon is unusual, the steadily increasing numbers of elderly persons in the general population should reveal a greater incidence of both diseases occurring simultaneously, and therefore caution is warranted on the part of the clinician.

Recent investigations have thoroughly disproved any association between diabetes and cancer of the pancreas even though for many years it was thought that there was a higher incidence of pancreatic cancer in the diabetic than in the nondiabetic.

The above brief remarks are made in an attempt to broaden our concept of the associations of these conditions and to call to our attention that some combinations are based on substantial clinical evidence while others are not.

RESEARCH
EDUCATION
SERVICE

SYMPOSIUM ON EVALUATION OF EARLY DIAGNOSIS OF CANCER

to be presented at the

ANNUAL SCIENTIFIC SESSION OF THE AMERICAN CANCER SOCIETY

Biltmore Hotel, New York City, October 26–27

Program fully approved and recommended by the AMERICAN ACADEMY OF GENERAL PRACTICE for 12 hours of Category II Credit for members.

SENATOR HILL HONORED AT TESTIMONIAL LUNCHEON

An assembly of distinguished physicians, high ranking Goverment officials, and leaders in business and labor gathered at the Mayflower Hotel, April 29, to pay tribute to the Honorable Lister Hill, Senator from Alabama, for his unusual devotion to health needs of the people over many years. The occasion was a joint testimonial luncheon sponsored by the Washington Board of Trade and the Medical Society of the District of Columbia. More than 700 persons were present.

Senator Hill, co-sponsor of the Hill-Burton Hospital Construction Act, is often referred to as the "Statesman for Health." Through the Hill-Burton Act and other legislation, his efforts have brought needed medical facilities to many communities throughout the country.

Dr. Richard T. Sullivan, Chairman of the Public Health Committee of the Washington Board of Trade, made some introductory remarks. The principal speaker was Dr. Howard A. Rusk, Director of the New York University-Bellevue Medical Center Institute of Physical Medicine and Rehabilitation, who at the close of his talk presented the first annual "Health—U.S.A." award, an inscribed bronze plaque, to the honored guest. Senator Hill, who is Chairman of the Senate Committee on Labor and Public Welfare, in a moving response, expressed his deep appreciation for the unusual recognition tendered him. He called for a united effort, through the International Medical Research Bill, in which our country would join with all the world in a gigantic combat "against the major killing and crippling diseases that have baffled and plagued mankind through the centuries." A portion of both of these major addresses are published herewith.

The Honorable Lyndon B. Johnson, Majority Leader of the Senate, brought greetings from the Congress. The Honorable Arthur S. Flemming, Secretary of Health, Education and Welfare, spoke for the Executive Branch of the Government. A tribute from science came from Dr. Selman A. Waksman, Professor Emeritus of Rutgers University, 1953 Nobel Prize winner and a discoverer of streptomycin. Mr. John E. Bryan, General Manager of the Birmingham Chamber of Commerce, brought a message from Alabama. Others who took part in the program were Mr. Victor O. Schinnerer, President of the Washington Board of Trade; Mr. Julius N. Cahn, General Chairman; Mr. Ralph E. Becker, Award Chairman; and the Very Reverend Monsignor Russell A. Phelan, of the Church of the Annunciation, who gave the invocation.

Dr. W. Leroy Dunn, President, and Theodore Wiprud, Secretary, were present as official representatives of the Medical Society. Other members of the Medical Society who were present in a representative role were, in addition to Dr. Sullivan, Dr. Leroy E. Burney, Surgeon General of the Public Health Service; Dr. Leonard A. Scheele, formerly Surgeon General of the Public Health Service; Dr. Ross T. McIntire, Executive Director of the International College of Surgeons; Dr. John L. Parks, Dean of the George Washington University School of Medicine; Dr. Stanhope Bayne-Jones, former Chairman of the Secretary's Committee on Medical Research and Education of the Department of Health, Education and Welfare; Dr. Irving B. Brick, Associate Professor of Medicine, Georgetown University School of Medicine; Dr. Oscar B. Hunter, Jr., past Chairman of the Public Health Committee of the Washington Board of Trade; and Dr. William B. Walsh, President of the People-to-People Foundation.

FROM THE REMARKS OF DR. RUSK

I should like to express appreciation in behalf of the now almost one million disabled people that have been rehabilitated, 90 per cent of whom are back at some kind of gainful work because of your understanding—the kind that put the tools in the hands of Mary Switzer and her colleagues in every state of the Union, and to those of us in my own branch of medicine.

And I should like to say thank you for the physicians, the research workers, and the medical teachers of the United States. You have put the tools in the hands of all of us. So we are grateful to you. We are grateful to you in emergencies and in serious situations that confront doctors in the practice of medicine and surgery, because you have given us the things with which to work that let us do our job and which have brought the life expectancy in this country from 46 at the turn of the century to last year the Biblical three score and ten.

But one other thing you have given us, and it is for the first time, I believe, in history. It is a feeling of security, so that someone can dedicate his life to the less remunerative phases of medicine, again to forge the tools that others may work with.

And now, recognizing all of these things, you are adding to your role of physician and Senator and statesman that of diplomacy. You realize, as Osler said, more than fifty years ago, that medicine does not know, nor has ever known an international boundary; that modern medicine came from many places—vaccination from England, bacteriology from France, basic research in the antibiotics from Germany and England and the United States, insulin from Canada, anesthesia from the United States, many of the modern surgical technics in chest and heart surgery from our own country, and so on *ad infinitum*.

You remember, too, that rauwolfia came from India and lay dormant for hundreds of years until it was taken and was refined and is now one of the strongest tools that we have in combating some of our primary mental health problems.

You know better than almost anyone that this world of ours is technologically precocious and spiritually adolescent. But in the field of health, sickness and disability, we can still speak a common language; and in a democracy we feel that whatever we learn for the benefit of mankind must be shared.

And you know, too, that possibly some place, almost ready to be uncovered, either in this country or somewhere else in the world, may be the answer to cancer, or arteriosclerosis, or arthritis, or some of these other scourges of mankind.

So, your newest campaign is for a program that would share and take from the world everything that is known to be put together for the benefit of all mankind. And if we hit the jackpot and find something specific, it will benefit all mankind.

That is the principal of the program. But the interest may be more important than the principal, and that is the interest of international understanding. Because here, in the diplomacy of health and the care of people, possibly we can learn to live together and have peace in the world.

At least it is one solid stone in a foundation of a structure that must be built, or else all of us are wasting our time.

HEALTH AWARD TO SENATOR HILL

DR. HOWARD A. RUSK (left) presents the first "Health—U.S.A." award to SENATOR LISTER HILL at a gathering of national and civic leaders in his honor, April 29, at the Mayflower Hotel.

I'd like to conclude these remarks of gratitude from all of the people from all over the world for this philosophy and dynamic spiritual program that you have created by reading what I believe to be some appropriate verses. This is not a political speech, but I must tell you that I first saw the poem five years ago on the Christmas card of Adlai Stevenson. I wrote and asked him where he got it. It came from the archives of an old church in the South. It is a prayer of an unknown Confederate soldier, and it is the creed of our own institution.

It became our creed because one of our patients read it and handed it to his friend, and he read it and he said, "This man is talking about us." And his father, one of the great industrialists in this country, said, "He is talking about me too."

So he had it cast in bronze. It stands in our Institute for comfort and solace and for stimulation and courage to work. And our patients entitled it:

A CREED FOR THOSE WHO HAVE SUFFERED

I asked God for strength that I might achieve;
I was made weak that I might learn humbly to obey.

I asked for health that I might do greater things;
I was given infirmity that I might do better things.

I asked for riches that I might be happy;
I was given poverty that I might be wise.

I asked for power that I might have the praises of men;
I was given weakness that I might feel the need of God.

I asked for all things that I might enjoy life;
I was given life that I might enjoy all things.

I got nothing that I asked for,
but everything that I had hoped for.

Almost despite myself, my unspoken prayers were answered:
"You are among all men most richly blessed."

It was said so simply 400 years ago—your philosophy—when it was said in a sentence that "If every man would mend a man, then all the world would be mended."

FROM THE REMARKS OF SENATOR HILL

This occasion will ever be an abiding inspiration to me and will serve to strengthen, to stimulate and to challenge me for the great tasks that lie ahead.

Today, in this new age of science and technology, we know that there must be coördinated effort on the part of men of business and industry with men of science and medicine. To this cause we know that men of business and industry have already made great contributions. For the men of business and industry are this day studying and testing concepts and providing the best tools, and materials, and designs for relieving human suffering and saving human lives.

Here in Washington, not many days ago, at a great meeting, sponsored by the American Heart Association and the National Heart Institute, we heard the story of how industry in developing plastics and other materials and devices had made it possible not only to substitute for human limbs but to replace vital human organisms. Witness the plastics of business and industry replacing the aorta, the great blood vessel leading out of the heart. In fact, today we see as never before the partnership of business and industry with medicine and science.

We are now engaged in a world-wide conflict to stem the tide of Communist Imperialism. We find ourselves in a political and military crisis over Berlin. And we know that any victory that the Soviet Union should gain regarding Berlin might well lend encouragement to the Chinese Reds with reference to Quemoy, Matsu and Formosa. We recognize the ever-present danger of the situation in the Middle East, and hanging ominously over all of this is the possibility of nuclear warfare.

We must be aware of the fact that an underprivileged two-thirds of the human race are constantly afflicted by the ravages of disease. Millions of these people in the underdeveloped areas rarely if ever in an entire lifetime see a doctor. We must recognize that medicine is the universal language, since it speaks to all peoples of all lands. We must make our medical voice heard by those who without us have no hope, saying to them that we do care for their health, their lives, and their happiness.

Dr. Gunnar Gundersen, the distinguished President of the American Medical Association, in speaking for that Association in behalf of our International Medical Research Bill, declared: "There is a growing recognition that medicine, with its resources and its influence fully mobilized, can do more for the peace of the world than all the billions of dollars being poured into armaments."

We must continue to give our wholehearted support to the World Health Organization and the other international organizations in the field of preventive medicine in which we are sharers in the prevention of yaws, malaria, tuberculosis, typhoid fever and other diseases.

I am thinking of the Ship of HOPE, Doctor; I'm thinking of MEDICO; I am thinking of these other voluntary, privately financed organizations brought into being to send doctors and medical personnel into the underdeveloped areas.

We must press forward with our International Medical Research Bill to provide the mechanism through which our country would join with all the world in a united medical research effort against the major killing and crippling diseases that have baffled and plagued mankind through the centuries.

Yes, my friends, we must have a great program of international coöperation in medical research so that

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THE MEDICAL EDUCATION SITUATION*

Mr. Thompson of Texas: Mr. Speaker, I am interested in the medical education situation in the United States, particularly because the University of Texas Medical School is in Galveston, my hometown. With no little concern I have noted in recent months that the medical profession has been under attack in several areas of the press. As a result, I conferred with Dr. John Truslow, director of the Texas University Medical School, and then prepared 7 questions dealing with medical education throughout the country, with a view to ascertaining whether sufficient qualified doctors are being produced to meet the needs of our rapidly growing population. I submitted these questions to Dr. F. J. L. Blasingame, of Wharton, Texas, an old friend and constituent of mine who went to Chicago a year ago to assume the responsibilities as executive vice president of the American Medical Association. I have complete confidence in Dr. Blasingame, and his answers to the questions I submitted are very gratifying to me.

I was pleased to learn that since World War II there has been an increase in approved medical schools; that there is a substantial increase in medical students; and that, contrary to certain reports, the American Medical Association exercises no control over the number of students admitted to medical schools. There is much other valuable information in Dr. Blasingame's reply and I believe it will do much to eliminate certain misconceptions about the medical profession. Under leave previously granted, I insert my letter to Dr. Blasingame and his reply:

Congress of the United States
House of Representatives
Washington, D. C., March 9, 1959

F. J. L. Blasingame, M.D.
Executive Vice President
American Medical Association
Chicago, Ill.

Dear Dr. Blasingame:

My attention has been called to a number of bills introduced in the 86th Congress affecting directly, or indirectly, the medical profession.

As a result, I wish to obtain certain information on the present supply of doctors in the United States and to ascertain as far as possible the prospects for an adequate supply of physicians to meet the needs of our growing population.

So I am calling on you, not only as executive vice president of the American Medical Association, but as my old friend and my loyal constituent to supply me with the information. On a separate sheet, I am submitting questions that occur to me in this connection. I know you can provide the facts; facts that should be made known to Congress before action is taken to consider legislation affecting the medical profession.

I am writing this after a conference with our mutual friend, Dr. John Truslow, head of the University of Texas medical branch in Galveston, who called on me today.

I will appreciate your answering these questions and will further appreciate any other information you might give me that is relevant.

I want to say that I think you did a courageous thing in sacrificing your substantial private practice in Wharton to take over the direction of the AMA. I wish you great success.

Dr. Truslow joins me in sending you our best wishes.

Sincerely yours,
Clark W. Thompson

American Medical Association
Chicago, Ill., April 16, 1959

Hon. Clark W. Thompson
House Office Building
Washington, D. C.

Dear Congressman Thompson:

Thank you for your recent letter and your interest in medical education.

It is indeed a pleasure to bring you an up-to-date report on the status of medical education in the United States. As you know, I am proud of the accomplishments of our medical schools and have great faith in their ability to train enough physicians to meet the needs of our growing population.

You asked 7 important questions about the medical education picture. Let me answer them one by one.

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* Extension of the remarks of the Honorable Clark W. Thompson, of Texas, in the House of Representatives, Thursday, April 23, 1959, reprinted from the *Congressional Record* of the 86th Congress, First Session.

First, has the number of physicians graduated from approved medical schools kept pace with the growth of the Nation's population? Over the long haul, the increase in medical graduates is much greater proportionately than is the increase in the population. From 1920 to 1958, the percentage of increase in medical graduates from approved schools was 125 per cent, compared with a 64 per cent increase in population. In the past 20 years, the percentage figures are fairly comparable: 32.1 per cent increase for medical graduates; 33.4 per cent increase for population.

The future, I believe, looks bright. Each year, for the past 11 years, the number of students enrolled in approved medical schools has increased. This boost in enrollment amounts to 29.6 per cent (from 22,739 to 29,473).

Your second question was whether medical schools seek to restrict the number of medical students. Two factors make it necessary for a school to establish an arbitrary top enrollment figure: facilities and budgetary funds available to operate the school. Each school faculty determines the number of students who can have a sound education with the faculty personnel and the facilities available to the school.

Medical education is a graduate educational experience following the completion of the regular college course, and because of the subject matter covered requires individual and small group instruction. To turn out well-trained, highly-qualified physicians the school requires a large faculty of skilled educators, plus sufficient teaching and research laboratories, hospital beds and clinical patients. The number of students that can be taught must be necessarily restricted to fit the facilities so that the emphasis can be on quality of the graduate rather than on the quantity of students.

Third, you asked: What is the ratio between applicants to medical schools and those accepted? The answer is 1.97 (15,791 applicants for first year medical school to 8,030 places available). This ratio has remained about the same for the past 5 years.

Incidentally, a common confusion that arises in discussing applicants to student ratio is mistaking applications for people (applicants). Each person applies, on the average, to 4 medical schools. Thus, for the 1957–58 academic year, the 15,791 applicants filed a total of 60,946 applications.

Next, you asked if it is true that only students with an A college academic record are accepted into medical school. That has never been true. About one-sixth of the entering medical students for the whole country have A college records; about two-thirds have B records and about one-sixth have C records.

Your fifth question was: Is the number of medical schools increasing in the United States? In 1944, there were 77 approved medical schools, including 8 2-year schools from which students had to complete their final 2 years of medical education in any of the 69 4-year schools. In 1958, there were 85 approved medical schools. Eighty-one are 4-year schools; only 4 2-year schools.

Two other schools are under development. As a step toward still further expansion of medical school facilities, the American Medical Association last year urged "institutions of higher education where medical education has not been undertaken in the past to give serious consideration to the development of opportunities in the field."

Sixth. Has the American Medical Association anything to do with the number of enrollments in medical schools? Enrollments are strictly determined by each individual medical school. Neither the universities nor their medical schools would permit an intrusion into their academic freedom by a national professional association.

Your final question asked whether I think it is necessary for Federal funds to be provided for medical schools. The medical profession welcomes one-time Federal grants for medical school construction and renovation as well as Federal grants for basic research. The profession has been opposed to continuing Federal aid for operating expenses because of the potentialities therein for Federal control.

I should like to point out that the National Fund for Medical Education, which raises funds from industrial sources, and the American Medical Education Foundation, which raises funds from the medical profession, have made grants in excess of $10 million to medical education over the past 8 years.

I hope this information will aid you in analyzing bills introduced in the 86th Congress which pertain to the training of physicians. As further background, I am sending along a copy of the most recent annual

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COMMUNITY TESTIMONIAL FOR DR. HARMON

Some 400 friends and colleagues of Dr. Robert H. Harmon gathered on Saturday evening, May 16, at a special testimonial banquet in his honor at the Presidential Arms. The occasion marked his 35th anniversary as Director of the George Washington University Glee Club.

Dr. Harmon is known far and wide for his musical accomplishments. In 1930, the year of his graduation from medical school, his male chorus won first honors in the Intercollegiate Male Glee Club contest in New York City. His Lions Club Quartet won second place in a national contest in San Francisco in 1949.

In addition to directing his groups at the University, Dr. Harmon has been director and soloist at a number of churches in Washington. He has directed the chorus of the Friendly Sons of St. Patrick. In 1945 the S.P.E.B.S.Q.A., Inc. named him its first charter member and director. Currently he directs and sings with the Air Force Chapel of the Air, which is televised locally and later shown overseas. Perhaps his best known group is the Traveling Troubadours, a troupe of 30 voices that has since 1950 traveled some 150,000 miles to entertain American service personnel at bases in many parts of the world. For 6 consecutive years this group was in Thule, Greenland at Christmas to perform Handel's "Messiah" and other musical works for the servicemen and officers at the bleak and lonely outpost.

Dr. Harmon was presented with a hand-lettered scroll of appreciation from his friends as well as a stereophonic music system for his home. More than 150 letters from friends all over the world were presented to him in 2 bound volumes, and he also received a recording of the entire proceedings of the evening. The General Alumni Association of George Washington University presented him with a citation of appreciation.

Colonel Robert W. Gates, of the U. S. Air Force, was master of ceremonies and Dr. Richard R. Randall, Chairman for the banquet. Others at the head table included Dr. Harmon's two brothers, Mr. A. Peale Harmon, of Vicksburg, Miss., and Bishop Nolan B. Harmon, of Charlotte, N. C.; Dr. O. S. Colclough, Acting President of the University, and Mrs. Colclough; Dr. Daniel L. Borden, University trustee; and Dr. and Mrs. J. Roscoe Creer.

As might be expected, the entertainment was principally musical. The surprise number of the evening was the rendition of an Irish medley by the Lions Club Quartet of the late forties, with Dr. Harmon as baritone.

Dr. Harmon came to Washington in 1917 to study medicine after having graduated from Millsaps College in Mississippi in 1915. Financial obligations turned him to teaching school for a few years, and it was not until 1921 that he enrolled for medical study at George Washington University. At the same time he joined the Male Glee Club of the University and within 3 years became Director. Mrs. Grace Ruble Harmon, his wife, became accompanist at the same time, and they have held the two posts ever since.

In addition to his work with the glee clubs at the

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DR. HARMON HONORED FOR MUSIC AND MEDICINE

Among those present to honor Dr. Robert H. Harmon (left) and Mrs. Harmon (third from left) at a community gathering, May 16, at the Presidential Arms, were Dr. O. S. Colclough, Acting President of George Washington University, and Mrs. Colclough.

On the Lighter Side

Are you a medical week-ender? Do you find it impossible or impractical to pack up all your go-to-meeting duds and go off gallivanting on a July vacation for 3 or 4 weeks? Does the heavy burden of your practice and the deep feeling of responsibility to your patients keep you within telephone reach on week ends? Does it? Do they? If you can answer "yes" to these heart-stirring questions and yet you feel the need of getting away from it all—if only for a week end—then the following is for you.

With the green fields shimmering through the haze of summer's heat, and the endless blue of a cloudless sky spreading its celestial immensity from horizon to horizon, the July week-ender can find many a simple pleasure to alter the course of his usual routine of leisure.

The home-stayer can loll comfortably under his shade trees and sip long drinks as he flinches at the thought of the hot traffic jams on all the exit roads leading from the Washington vicinity. He can listen to soft music emanating from his portable FM radio, or he can watch a baseball game on TV unmolested by dripping mustard from the hot dogs clutched in the grubby little hands of the noisy little monsters behind him. He can take a refreshing nap while lying cozily in the hammock nestled under the cool of the spreading boughs of the oaks and maples on his lawn.

If he is golf-minded, he can strip down to his Bermuda shorts and practice putting on his practice green behind the house. If he is energetic and full of beans he can mow and water the lawn or clean out the accumulated rubbish from the garage or basement. All of these pleasant little simple things the doctor can do on his July week ends.

If the medical week-ender is a cave dweller by the week but owns a "place" in the country or on the Bay that is within easy commuting distance, he can slip away in the cool of early dawn and get to his diggings long before the roads become clogged with bumper-to-bumper Sunday drivers. Once at his destination there are many and varied pursuits to pursue in the pursuit of simple pleasures. For instance, just sittin' and rockin' on a cool shaded porch calmly watching the water fanatics on the Bay killing themselves with their excess energy can be quite rewarding to a weary Doc who needs his rest.

Straddling a riding mower and watching the smooth paths of clipped grass merge into a well-trimmed lawn is a simple happy experience to a soul who longs for accomplishment on his week ends.

There is also simple satisfaction in gazing deep into the murky green depths of quiet water while bottom-fishing from a gently rocking boat. Here one can indulge in undisturbed thinking and self analysis while sitting a half mile offshore feeding bait to hungry, elusive fish. Here also one can get sudden mental and physical response to a slight tug on a fishing line.

For those fortunate medical sailors who have the larger boats, there is nothing more restful and stimulating to a weary soul and body than a cooling breezy boat ride down the river or out into the Bay, especially if the company is good.

Now these are some of the simple pleasures that you can enjoy if it weren't for Mama and the children. They will, in all surety, have your week ends all planned and decided for you once the chilling shock of realization that there will be no-going-away-on-vacation has restored the family blood pressure back to normal, and once the deadening despair has resigned itself to unwilling and begrudging compliance.

Thus you see what simple pleasures you could enjoy if it weren't for that togetherness!

* * * * *

New boat owner to be added to the medical contingent who go down to the sea in ships is Dr. Robert C. Hecker in his "Bob-O-Dink," a 29-foot Richardson, twin screw, that sleeps four.

* * * * *

Chuckle note: It is all right to tell a woman that you knew her when she was a little girl, but never, never make the mistake of telling her that you knew her when you were a little boy.

J. Earl Kadan, M.D.

News and Personals

GENERAL NEWS

Dr. Preston A. McLendon, Chairman, presided at the regular meeting of the **Executive Board of the Medical Society of the District of Columbia,** May 25, 1959. Mr. N. J. Kechejian, President of the senior class of Georgetown University School of Medicine, had asked to appear before the Board in order to report briefly on the annual meeting of the Student American Medical Association which he had attended. Mr. Kechejian expressed the appreciation of his school and the George Washington and Howard Universities for the financial contribution of the Medical Society which made it possible for him and representatives of the other schools, which have S.A.M.A. Chapters, to participate in the annual meeting.

District Judge Alexander Holtzoff, Chairman of the American Bar Association's Special Committee for Improving the Administration of Justice in the District of Columbia, had requested President Dunn to serve on the committee as the Medical Society's representative. Although Dr. Dunn will terminate his presidency at the end of this year, the Board voted that he accept the appointment as the Society's permanent representative on the A.B.A.'s special committee.

Dr. Harold M. Hobart will be asked to represent the Society at the National Conference on Physicians and Schools, to be held at Highland Park, Illinois, October 13–15.

The appointment of **Major General Leonard D. Heaton, M.C., U.S.A.,** as **Surgeon General of the Army** by President Eisenhower, was confirmed by the Senate, April 25, 1959, and became effective, June 1. General Heaton, who has been Commanding General of Walter Reed Army Medical Center since April 1, 1953, succeeds Major General Silas B. Hays, who is retiring from active duty after serving for 31 years in the Army Medical Corps. He will become Director of the Blood Program of the American Red Cross in its 16-state Eastern Area, August 31.

MAJOR GENERAL LEONARD D. HEATON, MC, USA
Surgeon General of the Army

General Heaton was commissioned as First Lieutenant in the Medical Corps in 1927, a year following his graduation from the University of Louisville School of Medicine. He was first assigned to duty at Walter Reed in 1928, when he attended the Army Medical School.

During World War II he served at Woodrow Wilson General Hospital, Staunton, Va., and as Commander of the 160th General Hospital and the 802nd Hospital Center overseas. In 1945 he became Chief of Surgical Service at Letterman Army Hospital in San Francisco and Commanding General of the Hospital in 1950.

To add to his decorations for war service, the Secretary of the Army presented him in 1957 with the Distinguished Service Medal for a series of nationally important surgical operations. These included surgery performed on President Eisenhower and Secretary of State Dulles.

Brigadier General Clement F. St. John, Commanding General of the Brooke Army Hospital, Fort Sam Houston, Texas, will succeed him at the Walter Reed Army Medical Center, effective July 15.

General St. John is a medical alumnus of Ohio State University. He was commissioned in the Medical Corps of the Regular Army in 1930. He served in the World War II invasion of North Africa and later with the 5th Army in Italy. After graduating in 1951 from the Industrial College of the Armed Forces, he served in Germany as Deputy Surgeon of the United States Army in Europe and later as Commanding General of the Landstuhl Army Medical Center.

D. C. General Hospital will lose the services of its Chief of Medical Staff, **Dr. Joseph F. Fazekas,** and three division chiefs, **Drs. Sol Katz, Irwin Rovner, and Richard F. Daly,** during the summer months.

Dr. Fazekas will retire on medical disability, August 15. He has served for the past 11 years as Chief of Staff. He is Clinical Adjunct Professor of Medicine and Neurology at Georgetown University School of Medicine, as well as Professorial Lecturer in Medicine at George Washington University School of Medicine. His plans at present are to study neurology for a year and then enter private practice.

Dr. Katz, Chief of the Division of Pulmonary Diseases since 1946, has worked at D. C. General for 18 years; he will become Chief of Medicine at Veterans Administration (Mt. Alto) Hospital.

Dr. Katz is Associate Professor of Medicine at Georgetown and Professorial Lecturer in Medicine at George Washington. He is also Associate Editor of GP.

Dr. Rovner, Chief Medical Officer in Obstetrics and Gynecology, plans to enter private practice.

Dr. Daly, Chief Medical Officer in Neurology, has a medical fellowship to study in England.

The newspapers have published some commendatory articles and editorials, enumerating the accomplishments of Drs. Fazekas and Katz, who have spent so many years at D. C. General, and expressing the City's gratitude for their work in raising the medical standards of D. C. General.

District Judge Alexander Holtzoff, new Chairman of the **District's Committee for the Improvement of the Administration of Justice,** a localized division of the American Bar Association, has appointed a subcommittee to study possible adoption in Washington of a system of impartial medical testimony in court trials. Attorney David G. Bress, Past President of the District Bar Association, was named Chairman. Among those appointed to serve on the subcommittee were: Drs. John R. Cavanagh, Sol Katz, and Harold Stevens; Theodore Wiprud, Secretary of the District Medical Society; and Attorneys Richard W. Galiher (Vice Chairman), Herbert A. Bergson, Joseph D. Bulman, Paul R. Connolly, Justin L. Edgerton, Wilbert McInerney, and James C. Toomey (Secretary).

In his letter of notification to the Secretary of the Medical Society, Mr. Holtzoff stated: "I need not dwell at length on the great need, particularly in the trial of actions involving personal injuries, for a constructive program to deal with incongruous situations where eminent members of the medical profession are in sharp disagreement in their diagnoses. I hope the committee will consider the subject fully and help establish a joint program with the medical profession which will alleviate the problem."

The Committee on Aging of the Medical Society of the District of Columbia is responsible for a special **Health Manual** issue of *Senior Citizen*, a monthly publication of Senior Citizens of America. Among those who contributed articles to the June Health Manual are Dr. Jack Kleh, Chairman of the Committee on Aging (who, incidentally, provided 3 articles), and Drs. Robert Stolar, Robert H. Barter, S. Ross Taggart, Calvin T. Klopp, Thomas McP. Brown, Andrew G. Prandoni, John W. DuChez, and Josephine J. Buchanan. There is also a selection by the late Dr. Edward J. Stieglitz, taken from his book, "The Second Forty Years."

Mr. Joy Elmer Morgan, President of Senior Citizens, states that the Health Manual is the third of a series issued by Senior Citizens as a service to

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
April 5	Dr. John R. Cavanagh	Tips for Teens and Their Parents	St. Mary's Church Sodality, Rockville, Md.
April 30	Dr. Robert P. Odenwald	Psychiatry and Religion in an Age of Anxiety	Virginia Conference of Social Workers, Roanoke, Va.
May 6	Dr. John R. Cavanagh	Emotional Problems of the School Child	Church of the Little Flower Sodality
May 20	Dr. Julius S. Piver	Cancer in Women	Lewisdale Homemakers, Lewisdale, Md.
May 21	Dr. Robert P. Odenwald	Counseling One Parent	One-Parent Association, Silver Spring, Md.
May 24	Dr. Murray M. Copeland, panelist	Cancer Research and Control?	Georgetown University Forum, Station WTTG-TV
June 8	Dr. Harold M. Hobart	"Plastic Bag Menace" and Accident Control	Patty Cavin Program, WRC
June 11	Dr. Robert U. Cooper	What's Wrong with the Brokerage Business	Washington Securities Dealers' Association
June 12	Dr. Frederick Y. Donn	Smoking and Cancer	Steve Allison Program, WWDC

its members and the general public. Copies may be obtained from his office at 1129 Vermont Avenue, N.W., Washington 5, D. C. They sell for $1.00 each, with special discounts on quantity lots.

The United States Employment Service announces a new, 24-hour **registry** to handle calls for **private duty nurses.** The telephone number is District 7-1129.

The USES Professional Office is located at 1000 16th Street, N.W. One of the principal aims of the new service will be to encourage nurses formerly active to return to the field of nursing. Nurses will be listed for full-time, part-time or intermittent duty. No registration fee will be charged. A private answering service will be utilized to take night calls.

The Alexandria Medical Society has elected new officers, who will take office in September. They are:

Dr. Ben C. Jones, Jr., *President*; Dr. James B. Gilbert, *Vice President*; Dr. Walter J. Brennan, *Secretary*; and Dr. William H. Young, Jr., *Treasurer*.

Drs. Jones and Gilbert are Associate members of the D. C. Medical Society.

The new President-elect is Dr. F. Preston Titus, who will take office in January 1961.

The Clinical Club of Washington elected new officers at its April meeting. They are:

Dr. Max J. Fischer, *President*; Dr. Vincent L. O'Donnell, *Vice President*; and Dr. Otto T. Englehart, *Secretary-Treasurer*.

The District Society for Crippled Children held cornerstone-laying ceremonies, May 27, for its new Rehabilitation Center at 13th and Girard Streets, N.W. It is expected that the Center will be ready for use by the fall school term.

The cornerstone included a copy of the will of the late Mrs. Theresa Crosson Pepper, whose bequest of $100,000 in memory of her father, Dr. Henry J. Crosson, made possible the initial plans of the building. Dr. Crosson was a Life member of the Medical Society who died in 1952.

Dr. John MacGregor, formerly Chief of Medical Service at the National Naval Medical Center, has retired from active duty and has joined the staff of the Washington Clinic.

PERSONALS

Dr. Robert E. Moran has been elected to honorary fellowship in the American Association of Plastic Surgeons, the youngest physician to receive the honor. The announcement from Boston, May 19, coincided with his birthday. He has been a member of the organization for 26 years without missing a meeting, and served as its president last year.

Dr. Moran, a graduate of Georgetown University School of Medicine, has specialized in plastic surgery since 1934. He is presently Associate Professor of Plastic Surgery at Georgetown University.

Dr. Edward D. Freis is one of two newly appointed Senior Medical Investigators for the Veterans Administration. The other is Dr. Samuel H. Bassett, of the VA Center in Los Angeles. Dr. Freis is an Associate member of the D. C. Medical Society.

The new senior investigator program will for the first time permit VA doctors to engage in full-time research. Nearly all VA medical research has been done by the Agency's regular hospital and clinic personnel as a voluntary activity in addition to their duties in care of patients. The senior investigators may hold appointments to the staffs of colleges and universities on a non-salary basis and have VA teaching and patient-care responsibilities to the extent of not more than 25 per cent of their working time.

Drs. Freis and Bassett have distinguished themselves in part-time research within the Agency and will remain at their VA hospitals. Dr. Freis is well known in medicine for his outstanding research on high blood pressure. His future studies will concern newer drugs for high blood pressure and hemodynamic studies in hypertension.

Two members of the Medical Society, **Drs. Preston A. McLendon and Winfred Overholser,** were among six educators at George Washington University who received emeritus status at commencement exercises, June 3.

Dr. McLendon, Professor of Pediatrics, came to the University in 1920. He is attending physician at Children's Hospital, Past President of the District Medical Society, and presently Chairman of the Society's Executive Board.

Dr. Overholser, Superintendent of St. Elizabeths Hospital, has served as Professor of Psychiatry at George Washington since 1938 and will continue to teach.

The faculty of the School of Medicine presented each of six University professors emeriti with a chair bearing his name-plate. The recipients were Drs. McLendon, Overholser, **Thomas C. Thompson, Frederick A. Reuter,** Joseph H. Roe, and Leland W. Parr.

Dr. Harry A. Ong saw his son, Beale, President of the Medical School's graduating class, receive his degree in medicine, along with 90 other seniors at the commencement exercises.

Dr. William H. Kessenich has been appointed Medical Director of the Food and Drug Administration. He has been Acting Medical Director since the resignation of Dr. Albert H. Holland, Jr. in January. A graduate of Georgetown University School of Medicine, he has been with the FDA since 1955.

Dr. S. Ross Taggart is the new President-elect of the American Venereal Disease Association. The election was held during the 10th Annual Symposium on Recent Advances in the Study of Venereal Diseases, held in the New Auditorium, Johns Hopkins Hospital, Baltimore, April 27–28.

Dr. Cyrus H. Maxwell resigned from the Washington Office of the American Medical Association, effective July 1. He had been associated with the AMA since March 1950, responsible principally for the Association's liaison work with the Senate. He has accepted a position with the Public Health Service in the Chronic Disease Branch of the Division of Special Health Services. His major assignment will be to work as its representative in planning and carrying out the White House Conference on the Aging.

Dr. Agatha J. Sobel has been appointed staff psychiatrist in the Legal Psychiatric Services Division of the Bureau of Mental Health, D. C. Department of Public Health.

Dr. Sobel graduated in medicine from the University of Chicago in 1954 and served first as intern, later resident in psychiatry, at St. Elizabeths Hospital from 1954 to 1958. Prior to her present appointment she was staff psychiatrist at St. Elizabeths.

Dr. Robert J. Bosworth, Chairman of the Executive Committee and head of the medical staff of Sibley Hospital, was presented with the Service Award of the Year by the Sibley Memorial Hospital Alumni Association, May 14. Dr. Bosworth, a graduate of George Washington University School of Medicine, has been engaged in general practice in the District of Columbia since 1928.

The National Heart Institute has awarded a grant of $30,000 to Georgetown University School of Medicine for a study project on renal hemodynamics under the direction of **Dr. Lawrence S. Lilienfield,** Assistant Professor of Medicine.

Dr. Lilienfield will also direct a study on intrarenal circulation, beginning July 1, under a grant of $8,850 from the American Heart Association to the University.

Dr. Lilienfield was recently elected to full membership in the American Physiological Society. In April he and **Dr. Leonard S. Berman** were elected to membership in the Society for Experimental Biology and Medicine.

Dr. Theodore J. Abernethy, Chairman of the Department of Internal Medicine, Washington Hospital Center, was honored, June 6, at the annual dinner of the Denison University Alumni Association in Granville, Ohio. Dr. Abernethy, of the Class of 1925, was cited for his contributions to medicine and mankind, thereby reflecting great credit and honor upon the University.

Dr. Robert S. Jason, Dean of Howard University College of Medicine, was one of 5 graduates honored by Howard University's General Alumni Association, June 4, for distinguished service. The recognition was a highlight of the Association's annual banquet.

Dr. Robert R. Cross received the Frank E. Gibson, Sr. Prize "for meritorious contribution to medical science" at the 62nd Annual Banquet of the Washington Medical and Surgical Society, which was held at Indian Spring Country Club, May 12. Dr. Cross received the award for his paper on "Anesthesia for the Poor Risk Patient."

Dr. George E. Schreiner has been elected to membership in the Cosmos Club of Washington, D. C.

Dr. Eugene J. McDonald was elected by the District Medical Society's Section on Radiology to serve as Councillor to the American College of Radiology.

Dr. Irving B. Brick was made a Fellow **and Dr. Jack P. Segal** an Associate member of the American College of Physicians at the Convocation of the College in Chicago, April 22.

Dr. Charles Rath has been appointed Secretary-Treasurer of the National Blood Club for 1958–59.

Drs. Leonard S. Berman, Paul R. McCurdy, and Peter C. Luchsinger have been promoted to the rank of Assistant Professor of Medicine at Georgetown University School of Medicine.

Dr. Maurice J. Kossow has been elected a Director of the Southwest Harbor Lions Club.

CORRESPONDENCE

RICHMOND, VA., May 14, 1959

TO THE EDITOR:

I am enclosing a letter I have just received from Group Hospitalization, Inc., (Blue Cross/Blue Shield) of Washington, D. C. As stated in the letter, their "benefits for psychiatric disorders are limited to care given in general hospitals, accredited by the Joint Commission on Accreditation of Hospitals. Under our Standard Blue Cross Plan, the maximum period of hospitalization covered is 10 days for any consecutive 12 months, and 30 days under our Preferred Contracts. The benefits are not applicable to care in psychiatric hospitals even when they participate in a Blue Cross plan."

Certainly the topic of such a policy is difficult to understand. It certainly is discrimination against private psychiatric hospitals, some of which have been in existence a number of years (even before the advent of Blue Cross/Blue Shield), and which represent quite an investment and considerable experience in treating mental disorders. Some of the private psychiatric hospitals are operated for profit, and some are nonprofit institutions. This, of course, has no bearing on the matter. General hospitals operate in the same manner.

One wonders why Group Hospitalization takes such an attitude. Cannot psychiatric patients be given as good care in psychiatric hospitals as they are in general hospitals? The various states license private psychiatric hospitals to give this specialized care, and many of the same hospitals have been approved by the Joint Commission on Accreditation of Hospitals, and other inspecting officers.

Why, then, does Group Hospitalization take its high-handed attitude?

Very truly yours,
JAMES K. HALL, JR., M.D.
Associate, Westbrook Sanatorium, Inc.

WASHINGTON, D. C., May 19, 1959

DR. JAMES K. HALL, JR.
WESTBROOK SANATORIUM, INC.
RICHMOND 27, VIRGINIA

DEAR DR. HALL:

Upon receipt of your letter, we called Mr. F. P. Rawlings, President of Group Hospitalization, Inc. He informs us that it was not the intent of GHI to discriminate against psychiatric institutions because they had not been accredited by the Joint Commission on Accreditation of Hospitals. Rather, it was done for economic reasons, care of mental patients in institutions specializing in their care being too costly.

At present, the care of the mentally ill in general hospitals is very brief, Mr. Rawlings said. Generally speaking, the period for which payment by GHI is made is devoted to diagnostic and other procedures which are preliminary to more protracted care if required.

I sincerely hope that GHI can see its way clear in the very near future to hospitalize mental patients in such fine institutions as yours.

Sincerely yours,
WALLACE M. YATER, M.D.
Editor, Medical Annals of D. C.

RICHMOND, VA., May 21, 1959

TO THE EDITOR:

Thank you very much for your letter of the 19th, regarding Group Hospitalization's policy of nonrecognition of private psychiatric hospitals. Mr. Rawlings, the president of that group, may not intend to discriminate, but I can assure you the policy is certainly not helping the private psychiatric hospitals. Other Blue Cross groups have this same ridiculous policy toward this type of hospital, and so do some commercial insurance companies. After a while, it becomes a rather tiresome refrain to hear from the insurance people that Westbrook Sanatorium is not a recognized hospital.

Sincerely yours,
J. K. HALL, JR., M.D.
Associate, Westbrook Sanatorium, Inc.

KINGSTON, PA., May 25, 1959

TO THE EDITOR:

On page 61 of the May 1959 issue of your excellent MEDICAL ANNALS I note an "ad" for a certain brand of cigarettes. In the April issue was a cigarette "ad" also.

While I know that many doctors smoke, I feel that the medical profession should not advertise any brand of cigarettes, tobacco or liquor. When I was in medical school, I used to get quite perturbed when I saw a reputable doctor, cigarette in hand, telling a patient with Buerger's disease that he should give up smoking. Now that the battle is raging as to whether or not smoking is a factor in carcinoma of the lungs, I feel that we of the medical profession should not advertise any tobacco company's product. We can't stop patients from smoking if they insist upon doing it but we should not be telling patients not to smoke and then advertise cigarettes in our medical journals. That is blowing hot and cold out of the same "double-talking" mouth.

I, for one, am in favor of eliminating such "ads" from our journals. Let me hear from you on this matter. If you think I am wrong, set me right. My "think tank" may have some holes in it or my ideas may need "filtering." Here's your "opporchancity" to do me a favor.

With the best of wishes to you, the Medical Society and your MEDICAL ANNALS, I humbly apologize for using such a poor grade of stationery on a high grade Editor.

Sincerely,
GEORGE J. BRILMYER, M.D.

WASHINGTON, D. C., May 30, 1959

TO MR. WIPRUD:

I notice in the April and May issues of the ANNALS that a whole page was given over to Kent cigarettes.

In the 1958 Annual Report of the American Cancer Society, I read the following: "Lung cancer now kills over 33,000 Americans yearly. . . . The Society and the vast majority of physicians and scientists who have studied the problem believe that cigarettes are the chief cause of cancer of the lung." Other causes, such as air pollution, are believed by many to play a part in the causation of this disease. As the evidence points to the cigarette as one of the causes, it seems to me inconsistent for a medical magazine to publish an advertisement for this product.

One cannot view television or listen to the radio without hearing much "apple sauce," "boloney," "bull," etc. regarding the products having less tars and nicotine and the only way one can escape such nauseating effects is to turn off the button.

Permission for a cigarette company to engage a booth at the Annual Convention would also seem unjustified.

I note that there is no cigarette advertisement in the A.M.A. *Journal.*

Cordially yours,
F. M. McChesney, M.D.

Editor's note: This matter has been taken up with the State Medical Journal Advertising Bureau, which submitted the advertising referred to. In view of these communications the cigarette advertising will be eliminated from the Annals as soon as the current contract expires.

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Surgical Pathology, 2nd ed. Lauren V. Ackerman, M.D., Professor of Surgical Pathology and Pathology, Washington University School of Medicine, St. Louis, Mo.; Surgical Pathologist, Barnes Hospital and Affiliated Hospitals, St. Louis, Mo.; Consultant to the Armed Forces Institute of Pathology, in collaboration with Harvey R. Butcher, Jr., M.D., Associate Professor of Surgery, Washington University School of Medicine, St. Louis, Mo. Price, $15.00. Pp. 1096, with 1114 illustrations. St. Louis: Mosby, 1959.

Atomic Medicine, 3rd ed. Edited by Charles F. Behrens, M.D., F.A.C.R., Rear Admiral, MC, U. S. Navy (ret.); Roentgenologist, Yater Clinic, Washington, D. C.; Consultant and Lecturer in Radiology, U. S. Naval Medical Center, Bethesda, Maryland; Formerly: Director, Atomic Defense Division, Bureau of Medicine and Surgery, Navy Department; Commanding Officer, Navy Medical Research Institute, National Naval Medical Center, Bethesda, Maryland, with 25 contributors. Price, $15.00. Pp. 705. Baltimore: Williams & Wilkins, 1959.

Childbearing Before and After Thirty-five. Biologic and Social Implications. Adrien Bleyer, M.D., Associate Professor Emeritus of Clinical Pediatrics, Washington University School of Medicine, St. Louis, Missouri; introduction by Richard L. Jenkins, M.D., Director, Psychiatric Evaluation Project, U. S. Veterans Administration, Washington, D.C.; commentary by Douglas P. Murphy, Associate Professor of Obstetrics and Gynecology, Gynecean Hospital Institute, University of Pennsylvania, Philadelphia. Price, $2.95. Pp. 119. New York: Vantage Press, 1958.

Fundamentals of Otolaryngology. A Textbook of Ear, Nose and Throat Diseases, 3rd ed. Lawrence R. Boies, M.D., Professor of Otolaryngology, and Chairman, Department of Otolaryngology, University of Minnesota Medical School, and Seven Associates. Price, $8.00. Pp. 510, with 212 illustrations. Philadelphia: Saunders, 1959.

Hearing. A Handbook for Laymen. Norton Canfield, M.D., Associate Clinical Professor of Otolaryngology, Yale University School of Medicine; President of the Audiology Foundation. Price, $3.50. Pp. 214. Garden City, N. Y.: Doubleday, 1959.

A Textbook of Medicine, 10th ed. Edited by Russell L. Cecil, M.D., Sc.D., Professor of Clinical Medicine Emeritus, Cornell University; and Robert F. Loeb, M.D., Sc.D., D. Hon. Causa., LL.D., Bard Professor of Medicine, Columbia University. Associate Editors: Alexander B. Gutman, M.D., Ph.D., Professor of Medicine, Columbia University; Walsh McDermott, M.D., Livingston Farrand Professor of Public Health and Preventive Medicine, Cornell University; and Harold G. Wolff, M.D., Professor of Medicine (Neurology), Cornell University. Price, $16.50. Pp. 1665, with 182 illustrations. Also available in 2 volumes; price, $20.50. Philadelphia: Saunders, 1959.

Urology in Outline. T. L. Chapman, Ch.M., F.R.C.S. (Eng.), F.R.F.P.S. (Glas.), Honorary Clinical Lecturer in Urology (University of Glasgow), and Urological Surgeon, Victoria Infirmary, Glasgow; Urological Surgeon, Hairmyres Hospital, Lanarkshire; Urological Surgeon, Ballochmyle Hospital, Ayrshire. Price, $6.75. Pp. 176. Edinburgh and London: Livingstone, 1959. Baltimore: Williams & Wilkins, exclusive U. S. agents.

Current Therapy—1959. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D., with 12 consulting editors. Price, $12.00. Pp. 781. Philadelphia: Saunders, 1959.

New and Nonofficial Drugs—Containing Descriptions of Therapeutic, Prophylactic and Diagnostic Agents Evaluated by the Council on Drugs of the American Medical Association. An Annual Publication Issued Under the Direction and Supervision of the Council. Price, $3.35. Pp. 687. Philadelphia: Lippincott, 1959.

Bone Tumors, 2nd ed. LOUIS LICHTENSTEIN, M.D., Chief Pathologist, General Medical and Surgical Hospital, Veterans Administration Center, Los Angeles; Fellow, New York Academy of Medicine; Professor Extraordinario, National University of Mexico; Consultant in Bone Tumors, Tumor Tissue Registry of California Medical Association Cancer Commission; Consultant in Pathology, Los Angeles County Hospital; Consultant, City of Hope Medical Center. Price, $16.00. Pp. 402, with 220 illustrations. St. Louis: Mosby, 1959.

501 Questions and Answers in Anatomy. STANLEY D. MIROYIANNIS, B.S., M.A., PH.D., F.A.A.A.S., F.I.A.S., Professor of Anatomy and Chairman of the Department, Still College. With an Introduction by ERNEST V. ENZMANN, PH.D., Associate Professor of Histology and Embryology, Still College. Price, $5.00. Pp. 332. New York: Vantage, 1959.

Hypertension—The First Hahnemann Symposium on Hypertensive Disease, edited by JOHN H. MOYER, M.D., Professor and Chairman of the Department of Medicine, Hahnemann Medical College and Hospital; with the assistance of JOHN R. BEEM, M.D., ROBERT BOWER, M.D., JOSEPH R. DIPALMA, M.D., ARTHUR GROLLMAN, M.D., WILLIAM LIKOFF, M.D., AND LEWIS C. MILLS, M.D. Price, $14.00. Pp. 790. Philadelphia: Saunders, 1959.

Navy Surgeon. An Autobiography. REAR ADMIRAL HERBERT LAMONT PUGH, M.C. (RET.), USN. Price, $5.00. Pp. 459. Philadelphia: Lippincott, 1959.

A Doctor Remembers. EDWARD H. RICHARDSON, M.D., Associate Professor Emeritus of Gynecology, The Johns Hopkins University School of Medicine, Baltimore, Maryland. Price, $3.95. Pp. 252. New York: Vantage, 1959.

Patient Care and Special Procedures in X-Ray Technology. CAROL HOCKING VENNES, R.N., B.S., formerly Surgical Supervisor and Clinical Instructor, University of Minnesota Hospitals, Minneapolis, Minnesota; AND JOHN C. WATSON, R.T., Director of Courses in X-Ray Technology, University of Minnesota Hospitals, Minneapolis, Minnesota. Price, $5.75. Pp. 203, illustrated. St. Louis: Mosby, 1959.

JOHN GORDON LEE, B.A., M.D., D.Sc., F.A.C.S.

(1902–1959)

Dr. J. Gordon Lee, Chief of Surgery at Mt. Alto Veterans Administration Hospital, died suddenly, May 9, 1959, at his home, 909 McCeney Avenue, Burnt Mills Hills, Md.

Dr. Lee was widely known for his work in head and neck surgery. He had done extensive research on shock cases in World War II, and was one of the founders of the American Board of Traumatic Surgery.

Dr. Lee was born, June 7, 1902, in Edmonton, Canada, to Robert and Annette Lee. He attended the schools of Edmonton, and was graduated with a Bachelor of Arts degree from the University of Alberta in 1924. He received his medical degree from McGill University in 1928. He interned the following year at Montreal General Hospital and was resident physician in pathology at the Lakeside Hospital in Cleveland, 1929–30.

Following postgraduate study in surgery at Presbyterian and Bellevue Hospitals in New York, he received the degree of Doctor of Science in surgery from Columbia University College of Physicians and Surgeons in 1934. During his years of postgraduate training he was instructor in surgery at Columbia University, later becoming Associate in Surgery (1940) and Associate Professor of Surgery (1946 to 1948). He was Assistant Surgeon at Bellevue Hospital from 1935 to 1948.

With the Army Medical Corps in World War II he was surgeon with evacuation and general hospitals in France and Germany. He served from 1942 until 1946, retiring with the rank of Colonel.

In 1948 he came to Mt. Alto VA Hospital as Chief of Surgery. In addition to this post he was Adjunct Professor of Clinical Surgery at both George Washington and Georgetown University Schools of Medicine. He served as the VA representative on the National Research Council.

Dr. Lee was a diplomate of the American Boards of Surgery and Traumatic Surgery. He was a Fellow of the American College of Surgeons, and a member of the Association of Military Surgeons of the United States, the New York Academy of Medicine, and the New York County Medical Society. He had been an Associate member of the Medical Society of D. C. since 1950.

Surviving him are his wife, Mrs. Valarie Holomon Lee, and three small children, Robert, David and Linda. He also leaves a sister, Mrs. Margaret Horner, of Edmonton, Canada.

DONALD HENRY GLEW, D.D.S.

(1900–1959)

Dr. Donald H. Glew, Sr., an Associate member of the District Medical Society, died suddenly at his home, 3506 Macomb Street, N.W., April 20, 1959. He had practiced dentistry and orthodontia in Washington for 37 years.

Dr. Glew was born in Ottumwa, Iowa, December 20, 1900, the son of Henry G. and Lucy Hawcock Glew, and attended its public schools. After the family moved to Washington in 1917, he completed his high school studies at the old Central High School in 1918.

He received his training in dentistry at George Washington and Georgetown Universities, graduating from the latter with a degree in dental surgery in 1922. His offices for many years were at 1150 Connecticut Avenue, N.W.; recently he had transferred his offices to his home.

As an officer in the Dental Corps Reserve he was on active duty at the Walter Reed Army Hospital Dental Clinic in 1924. From 1927 to 1930 he was attending dentist at the Garfield Hospital Outpatient Clinic. During World War II he was a member of the Medical Advisory Board to Selective Service of D. C.

In 1938 he took postgraduate study at the University of Illinois, qualifying himself to specialize in orthodontia, to which he confined his practice for the past 20 years.

He had been an Associate member of the District Medical Society since 1945. He was a member of the American Dental Association, the American Association of Orthodontists, the D. C. Dental Society, in which he took an active role, the Washington-Baltimore Orthodontic Society, the Edward H. Angle Society of Orthodontists, and the New York Society of Orthodontists.

He was a former vestryman of the St. Stephen and the Incarnation Episcopal Church. He also belonged to the National Sojourners and the Washington Round Table.

He is survived by his wife, Mrs. Pearl Bradshaw Glew, and two sons, Major Donald H. Glew, Jr., M.C., U.S.A., and Dr. William B. Glew, of the Washington Clinic, an Active member of the Medical Society. He also leaves a sister, Mrs. Richard Ramsell, of Des Moines, Iowa.

Adult Staphylococcal Pneumonia—Gold and Davis

(*Continued from page 365*)

washings and post-bronchoscopic sputum if a bacteriologic diagnosis has not been established.

In general, we feel that adult staphylococcal pneumonia can be divided into 3 distinct categories. First are the sporadic cases, which frequently can be treated successfully provided the disease is speedily diagnosed. The prognosis in this group is poorer when the infection attacks the very old or those individuals with underlying chronic pulmonary disease, diabetes, leukemia, or neoplasia. The second is the influenza-staphylococcal group, in which host resistance is lowered and bacterial virulence apparently increased. Early and vigorous therapy is mandatory in these patients if a satisfactory outcome is to be anticipated. The third is the hospital-acquired infection, which is most often due to resistant strains.

Antibiotic combinations are essential in the treatment of all 3 groups of staphylococcus pneumonia.[10, 11] High-dose chloromycetin, novobiocin, and erythromycin have proved most satisfactory in our hands. Ristocetin or vancomycin would appear to be indicated in a resistant case or a severely critical situation.

BIBLIOGRAPHY

1. Netter.: Arch de méd. expér. et d'anat. path., Par., 1892, **4**, 28.
2. Chickering, H. T., and Park, J. H.: J.A.M.A., 1919, **72**, 617.

3. Patrick, A.: Lancet, 1919, **1**, 137.
4. Finland, M., Peterson, O. L., and Strauss, E.: Arch. Int. Med., 1942, **70**, 183.
5. Michael, M., Jr.: J.A.M.A., 1942, **118**, 869.
6. Wilson, R., and Hamberger, M.: Am. J. Med., 1957, **22**, 437.
7. Fisher, A. M., and others: New England J. Med., 1958, **258**, 919.
8. Gold, J. A.: Mixed bacterial pneumonia and combined antibiotic therapy, to be published.
9. Gold, J. A., and Davis, J. W.: Adult pneumococcal pneumonia in the antibiotic era, to be published.
10. Petersdorf, R. G., Curtin, J. A., and Bennett, I. L.: A.M.A. Arch. Int. Med., 1957, **100**, 927.
11. Jawetz, E.: Ibid., 1959, **103**, 289.

External Otitis—Webb and Hansen

(*Continued from page 385*)

intradermal injection usually produces a 4-plus skin reaction, and we attempt to keep the dosage at the least dose which will give a 4-plus reaction.* This is based on the fact that we have observed the most dramatic relief in those patients manifesting the greatest dermal reaction. We have been unsuccessful in our attempts to explain this fully.

SUMMARY

External otitis has been presented from an etiologic and pathologic aspect. The classification of this disease into its 7 commonly seen types is discussed with the type of therapy for each. Emphasis is placed on an unusually successful response to chronic "resistant otitis externa."

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* Four plus reaction is defined by us as redness with tumefaction of at least 2.5 cm. diameter and pseudopod formation.

BIBLIOGRAPHY

1. Hansel, F. K.: Use of staphylococcus toxoid in otolaryngology. Ann. Otol. Rhin. & Laryng., 1954, **63**, 324.

Remarks of Senator Hill

(*Continued from page 404*)

we may, as Senator Hubert Humphrey has so brilliantly phrased it, "find a new vaccine, a peace vaccine."

With profound thanks to you, may I say that we must and we shall continue to press forward into the ever-widening horizons of medical discovery and medical knowledge.

In the providence of knowledge, in the strength of integrity, in the tenderness of sympathy, in the fellowship of humility, and in the love of God, we must and we shall continue the never-ending battle for the health of our people, for the health of all peoples, and for peace on this earth.

Medical Education Situation

(*Continued from page 406*)

report prepared by our Council on Medical Education and Hospitals, which was published in *The Journal of the American Medical Association*, November 15, 1958. It provides additional data that you might find useful.

I am happy that you wrote me after conferring with our mutual friend, Dr. John Truslow. If I can provide any additional information, please make your wishes known.

Sincerely yours,
F. J. L. Blasingame, M.D.

Testimonial for Dr. Harmon

(*Continued from page 407*)

University, Dr. Harmon is Associate University Physician and one of Washington's leading obstetricians. The George Washington University Medical Society honored Dr. Harmon in 1955 with its annual Award of Merit. He is Past President of the University General Alumni Association and received that organization's achievement award in 1949.

The Foreword which appeared in the special souvenir program concluded a biography of Dr. Harmon with this affectionate appraisal: "Always ready to help anyone, always eager to bring music to any occasion, and always a friend, Dr. Harmon looms large in the lives of those fortunate enough to have known him. This tribute tonight from all of us here, as well as from all those who were unable to attend, is long overdue, and is indeed inadequate thanks, compared to the magnitude of his gifts."

MEDICAL ANNALS
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VOLUME XXVIII August, 1959 NUMBER 8

CLINICAL TRIAL OF GUANETHIDINE, A NEW TYPE OF ANTIHYPERTENSIVE AGENT*†

EDWARD D. FROHLICH, M.D.

Fellow in Cardiovascular Research, Department of Medicine Georgetown University School of Medicine

EDWARD D. FREIS, M.D.

Chief of Medical Service, Veterans Administration (Mt. Alto) Hospital; Associate Professor of Medicine, Georgetown University School of Medicine

MAXWELL and his associates[1, 2] recently found in dogs that hexahydro-1-azepinepropionamidoxime dihydrochloride (SU-4029) lowered the blood pressure of neurogenic and renal hypertensive dogs, blocked the carotid occlusion pressor reflex, and eliminated the hypertension elicited by amphetamine and ephedrine but enhanced the pressor responses to norepinephrine and epinephrine. Similar effects also were observed with the use of SU-5864 [2-(octahydro-1-azocinyl)-ethyl] guanidine sulfate.[3] Maxwell et al postulated that these drugs had a novel mode of action characterized by inhibition of efferent sympathetic nerve activity at an unknown peripheral site. This preliminary report describes the clinical effects of SU-5864 (guanethidine) in hypertensive patients.

Materials and Methods

Fifteen male patients were selected from the hypertensive clinic, and all antihypertensive drugs were discontinued for a period of 2 weeks. Following this control period SU-5864 was administered in an oral dose of 50 mg. once daily in the morning. The dosage was increased or decreased from that level depending on the patient's response. Patients were seen at least once weekly and their blood pressures determined in the supine, sitting and erect positions after 15 minutes' rest. Approximately half of the patients recorded their blood pressure at home. The blood urea nitrogen and blood hemoglobin concentrations as well as the white blood count were determined prior to and at the conclusion of the study.

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* From the Veterans Administration Hospital; the Department of Medicine, Georgetown University School of Medicine; and the Cardiovascular Research Laboratory, Georgetown University Hospital, Washington 7, D. C.

† Supported in part by the United States Public Health Service Grant H-720 (National Heart Institute).

RESULTS

Antihypertensive effects. SU-5864 produced primarily an orthostatic hypotension (table 1). The reductions of systolic and diastolic pressures averaged 7/4 per cent in the supine position, 18/14 per cent in the sitting posture, and 27/26 per cent in the erect position. There was considerable variation in different patients, however, so that a few exhibited significant reductions in supine blood pressure (table 1) while others showed no change or slight increases of blood pressure in the supine position. Some patients who recorded the blood pressure at home noted diurnal fluctuations with low orthostatic levels on arising which rose progressively during the day. No evidence of tolerance or resistance to the antihypertensive effect was noted during the 4 to 9 weeks (mean 6 weeks) of treatment.

Dose response pattern. Effective maintenance dosage varied widely from 12.5 to 150 mg. (average 50 mg.) per day. Antihypertensive activity usually appeared 24 hours after an

TABLE I

Clinical Effects of SU-5864 in Fifteen Hypertensive Patients

Patient	Age	Race	Grade	Blood Pressure Untreated (mm. Hg Sitting*)	Dose (mg./d.)	Duration of Treatment (Weeks)	Blood Pressure on Treatment (mm. Hg)			Change‡ (mm. Hg)			Heart Rate on Treatment (per minute)			Side-effects
							Supine	Sitting	Erect	Supine*	Sitting	Erect*	Supine	Sitting	Erect	
A. H.	64	N	3	260/130	12.5	5	210/105	185/95	160/90	50/20	75/35	90/40				Orthostatic faintness
W. E.	49	N	2	200/130	12.5	8	150/112	140/110	130/90	50/18	60/20	60/45	52	56	68	Nasal stuffiness
J. W.	52	N	2	180/140	75	8	170/130	138/108	110/88	10/0	42/32	70/52	58	62	76	Nasal stuffiness
R. J.	45	N	3	185/130	25	8	155/120	155/108	130/98	30/10	30/22	50/37	56	68	84	Fatigue, weakness
H. F.†	38	N	2	126/96	50	6	138/96	122/90	110/82	+8/+6	4/6	16/18	60	62	64	None
A. J.	48	N	2	160/100	50	5	140/110	128/98	98/72	+20/+10	32/2	62/28	50	58	76	Weakness, impotence
J. P.	57	N	2	180/120	150	5	210/130	180/118	150/108	+30/+15	0/2	30/12	44	52	60	Nasal stuffiness
W. B.	68	N	2	180/120	25	6	190/126	130/102	100/80	+10/+6	50/18	80/50	64	76	82	Drooping eyelids
L. M.	53	N	1	205/120	62.5	6	200/130	185/120	155/105	5/+10	20/0	45/20	56	60	62	Drooping eyelids, blurred vision
S. S.	65	W	1	180/110	50	4	170/100	160/100	135/80	10/10	20/10	45/30	52	76	76	Weakness, impotence
N. B.	52	N	2	175/98	50	4	170/100	130/100	135/80	10/+5	15/+2	40/18	72	80	80	Diarrhea
E. G.	46	N	2	190/130	100	4	190/110	180/108	158/90	0/20	10/22	32/40	68	72	76	Diarrhea, weakness, impotence
S. B.	49	N	2	220/130	12.5	7	190/110	135/90	112/70	30/20	85/40	78/70	50	58	64	Orthostatic faintness, diarrhea, blurred vision
W. E.	37	N	1	210/120	50	4	175/112	140/100	145/100	38/8	70/20	65/20	60	68	68	None
W. D.	28	W	1	150/110	75	9	170/120	155/120	150/120	+20/+10	+5/+10	+10/+5	52	64	64	Impotence, orthostatic syncope, diarrhea, blurred vision
Mean	50			187/118	50	6				12/4	34/14.5	50/32	57	65	71	

* Although not reported because of minimal differences from sitting B.P. the control supine and erect pressures were used in calculating B.P. changes after treatment.

† Sympathectomy—transthoracic 8 years ago.

‡ Reduction in blood pressure unless otherwise indicated.

effective dose level and often progressed over the succeeding 2 or 3 days. Because of this cumulative effect severe orthostatic hypotension and other side-effects such as diarrhea could be precipitated by raising the dosages too rapidly. The duration of the orthostatic antihypertensive effect lasted as long as 4 days to 1 week after discontinuation of oral dosage. This was observed when drug administration was stopped because of severe postural hypotension or other side-effects. The prolonged duration of action probably contributed to the cumulative action of SU-5864.

Bradycardic effect. Unlike the adrenergic blocking agents, SU-5864 produced a decrease in heart rate to an average level of 57 (range 44 to 68) beats per minute with the patient in the supine position. Reflex increase in heart rate was not blocked, however, since the average rate increased to 65 in the sitting posture and 71 beats per minute in the erect position (table 1).

Side-effects. In addition to the bradycardia certain other side-effects suggested parasympathetic stimulation or at least parasympathetic effects unopposed by sympathetic activity. These side-effects included nasal stuffiness in 3 patients, drooping of the upper eyelids in 2, and diarrhea in 5. The diarrhea was severe and accompanied by abdominal cramps in 3 of these cases. It was readily controlled by methantheine bromide (Banthine), 50 to 100 mg. once or twice daily.

Four patients complained of impotence. Unlike the impotence experienced after ganglionic blocking agents, libido and ability to obtain an erection were not impaired. However, ejaculation could not be consummated, a reaction similar to the sexual impairment caused by lumbar sympathectomy. Orthostatic weakness and faintness were experienced regularly when the dosage was increased beyond tolerable limits, and 1 patient developed syncope. Dosage manipulation was necessary to achieve the optimal degree of orthostatic hypotension. Several patients complained of mild intermittent blurring of vision, although their pupils were neither dilated nor unresponsive to light or accommodation. This complaint disappeared in all patients after several weeks of treatment. No significant changes were noted in the hemogram or the blood urea nitrogen level.

Discussion

The presence of orthostatic hypotension and failure of ejaculation suggest a specific sympathetic blocking action of SU-5864 consistent with the pharmacologic studies in animals.[3] The presence of diarrhea and bradycardia, and the absence of dryness of the mouth or disturbance in pupillary accommodation indicate that the parasympathetic nervous system is not inhibited. The absence of tachycardia is inconsistent with the action of adrenergic blocking drugs such as tolazoline or dibenzyline.

The ability of SU-5864 to produce an orthostatic hypotension comparable to that achieved with the ganglionic blocking drugs but without the side-effects of parasympathetic inhibition makes this agent worthy of further study. The diarrhea produced by SU-5864 could be controlled with parasympathetic blocking drugs. The disturbance of sexual function is less complete and, therefore, less objectionable to the patients than that produced by ganglionic blockade. The disadvantages of SU-5864 include the predominantly orthostatic antihypertensive effect leading to postural faintness and even syncope, and the necessity for critical dosage adjustment. These disadvantages are similar to those experienced with the ganglionic blocking drugs. The prolonged duration of action of SU-5864 is an additional inconvenience and possible potential danger, since severe orthostatic hypotension may persist for several days after the drug has been withdrawn.

Preliminary clinical evidence suggests that the following measures may facilitate treatment with this agent: (1) gradual increase in dosages beginning at a level of 12.5 mg. once daily for the first week and increasing by increments of 12.5 mg. at weekly intervals, and (2) daily home blood-pressure recordings taken with the patient in the erect position and with instructions that the patient discontinue the medication if the blood pressure falls below a given level. Preliminary evidence suggests that administration of chlorothiazide as an adjunct seems to dampen out the wide diurnal swings of blood pressure seen in some of the patients. SU-5864 probably should be restricted to the more severe and resistant cases in which the blood pressures are not controlled with chlorothiazide alone or chlorothiazide with small doses of hydralazine and/or reserpine. Although no serious toxic effects have yet appeared following SU-5864, it is still too early to be certain that they will not occur with further exhibition of the drug.

SUMMARY

Guanethidine, a new type of sympathetic nervous system inhibitor, was given orally in single daily dosages to 15 hypertensive patients for periods varying from 4 to 9 weeks. The average effective dose was 50 mg. per day (range 12.5 effective dose was 50 mg. per day (range 12.5 to 150 mg.). The response was characterized by a potent, orthostatic, antihypertensive effect similar to that seen with the ganglionic blocking drugs but without the side-effects of parasympathetic blockade. However, some of the difficulties associated with ganglionic blocking drugs such as the need for careful dosage adjustment also characterized SU-5864 and were even aggravated by the prolonged duration of action of the drug. Side-effects included diarrhea, failure of ejaculation, and bradycardia.

BIBLIOGRAPHY

1. Maxwell, R. A., Ross, S. D., and Plummer, A. J.: Pharmacology of hexahydro-1-azepinepropionamidoxime dihydrochloride (SU-4029). J. Pharmacol. & Exper. Therap., 1958, **123**, 128.
2. Maxwell, R. A., and others: Concerning the mechanisms of the cardiovascular actions of hexahydro-1-azepinepropionamidoxime (SU-4029). Ibid., 1958, **124**, 127.
3. Maxwell, R. A., Mull, R. P., and Plummer, A. J.: [2-(Octahydro-1-azocinyl)-ethyl]-guanidine sulfate (SU-5864), a new synthetic antihypertensive agent. Experientia, in press.

GRISEOFULVIN, AN ORAL ANTIBIOTIC FOR RINGWORM OF THE SKIN, HAIR AND NAILS

A Preliminary Report

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THE SUPERFICIAL fungous infections have plagued man, animals and plants probably since the dawn of time. Treatment has been partially effective against fungous infection of the glabrous skin, largely ineffective against infection of the hair, and completely inept against infection of the nails. What has long been needed has been a specific systemic form of treatment.

The first significant advance in this direction was the discovery of nystatin, an antibiotic obtained from *Streptomyces noursei*.[1] Nystatin has proved to be quite specific against yeast-like fungi (e.g., in moniliasis) but not against the common dermatomycoses,[2] commonly referred to as ringworm of the skin, scalp and nails and as athlete's foot, jungle rot, dhobie itch, jockey rash, tinea infection, etc.

What now appears to be a break-through in the therapy of these latter conditions is the discovery of a new antibiotic, griseofulvin, derived from several penicillia. A review of its in vitro properties, agricultural and animal experiments will not be attempted here except to point out that Gentles[3] in August, 1958 reported its successful use against ringworm in guinea pigs. In late 1958 similar results were reported in man by Riehl[4] in Austria, Williams et al,[5] in England, and by Blank and Roth[6] in this country.

These latter authors have the most extensive series of patients—over 200. Other investigators, including us, have smaller series of patients under clinical trial with griseofulvin.† We are in complete accord with them[3–8] that griseofulvin is a remarkably effective remedy for the common dermatomycoses, which include those caused by the Microsporon, Trichophyton and Epidermophyton varieties of fungi. It is not effective against infections caused by *Malassezia furfur* (tinea versicolor), *Candida albicans* (candidiasis, moniliasis, thrush), and the deep fungous infections (blastomycosis, sporotrichosis, coccidioidomycosis, actinomycosis, histoplasmosis, etc.).

At the time of this writing griseofulvin is not commercially available but it almost certainly will be by the time of publication of this paper. Our purpose in writing this preliminary report is to acquaint physicians with this new and very promising drug.

Toxic reactions to its administration have been few and minor in nature. Some patients experience headache or gastrointestinal distress during the first few days or week, which usually subside on continued administration. A very occasional patient develops an urticarial eruption. This requires discontinuation of the drug. Hematologic and visceral function tests have shown no abnormalities attributable to griseofulvin to date. As the drug is used more and more there will undoubtedly be more reactions, but thus far it has proved to be a drug of low toxicity. Incidentally, several of our patients with a history of reactions to penicillin had no adverse reactions to penicillium-derived griseofulvin.

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† Supplied as Fulvicin by Dr. Kenneth Hawkins of Schering Corporation, Bloomfield, New Jersey.

The usual adult dose is 1 Gm. per day, taken orally as a 250 mg. tablet 4 times daily. Itching of cutaneous ringworm lesions ceases within 3 to 5 days, followed by desquamation and a temporary brownish discoloration, with clearing in about 3 weeks. The thicker palmar and plantar skin requires about 4 weeks. Tinea capitis clears up in 4 to 6 weeks, and "cure" must be confirmed by mycologic examination. New nail growth occurs at the nail-root in 2 to 4 weeks, but treatment is continued until the entire nail-plate has grown out, requiring 4 to 6 months.

It is emphasized that griseofulvin is fungistatic, not fungicidal. Hence, treatment must be continued until the affected parts are both clinically and mycologically negative.

Illustrative Cases

Case 1. A 30-year-old white man manifested a sharply marginated, pruritic, red, scaly patch in each inguinocrural region, merging on the perineum and extending to the upper posterior thighs. The duration was 12 years with summer exacerbations. Microscopic examination of KOH-soaked skin scrapings[9] revealed ringworm-type hyphae. Culture of skin scrapings on Sabouraud's medium proved to be *Trichophyton rubrum*, a resistant type of fungus. The diagnosis was tinea cruris. Griseofulvin, in 250 mg. tablets 4 times a day by the oral route, was prescribed. After 5 days the itching ceased. After 2 weeks a brownish, smooth, non-scaly patch marked the site of previous involvement. After 4 weeks no signs of dermatitis were present and mycologic examination was negative. There was no subjective or objective recurrence during the ensuing 3 months in spite of the onset of warm weather. There were no adverse side-effects to the medication.

Case 2. A 35-year-old white man presented complete absence of 3 nails of the right hand. The duration was 5 years. Microscopic and cultural examination showed *Trichophyton rubrum*. The diagnosis was onychomycosis. Trial of various external antifungal medications had no effect on the nails. Griseofulvin orally, 1 Gm. per day, was prescribed. In 2 weeks the lunular region of the affected fingers began to show new pink nail tissue, and the exposed nail beds changed from a piled-up hyperkeratotic appearance to flat, pink, thinner keratosis. The nails continued to grow forward slowly and steadily. After 4 months there were complete, apparently normal nails on all of the affected fingers, and griseofulvin was discontinued. Mycologic studies were negative at that time. There had been no toxic reactions throughout the 4 months of continuous medication. Further observation is necessary to determine the permanency of the cure. This patient was presented before the Washington Dermatological Society. It was the first case that we and our colleagues had ever seen in which fungus-infected nails (except monilial) had ever responded to any type of medication.

Case 3. Two white brothers, aged 3 and 5, had had scaly, broken-haired patches on the scalp for 6 weeks. Wood's light revealed fluorescent hairs occupying about half the scalp. Microscopic and cultural examination showed *Microsporum audouini*. The diagnosis was tinea capitis. Under local therapy the area of involvement extended to about 85 per cent of each boy's scalp in a month's time. Griseofulvin, 250 mg. twice daily, was prescribed. After 2½ weeks all the hair had grown out about 1 cm. and showed fluorescence only at the tips. These tips were carefully clipped off. After 4 weeks of therapy no fluorescent hairs were visible, and griseofulvin was discontinued. Two months later all the hair was growing normally with negative mycologic examination and no fluorescence. The drug was well tolerated at all times.

It is apparent that intelligent use of griseofulvin is dependant upon a basic knowledge of both dermatology and mycology. All that is ringed is not ringworm. On the other hand, ringworm need not be ringed. Similarly, all scalp affections and nail distortions are not of fungal etiology. Inevitably, griseofulvin will be wrongly condemned as useless when used in dermatoses which are not due to fungous infection. Wherever possible, mycologic confirmation is indicated. The high cost of antibiotic medication should be a deterrent to casual and indiscriminate prescribing unless the diagnosis is certain.

SUMMARY

There is now available an oral fungistatic antibiotic, griseofulvin. Clinical trial by us and other investigators has proved it to be an effective remedy for the common superficial fungous infections of the skin, hair and nails, even in formerly recalcitrant types of involvement.

Tinea corporis is usually cleared up in 3 weeks, tinea of the palms and soles in 4 weeks, tinea capitis in 4 to 6 weeks, and tinea of the nails in 4 to 6 months. The use of this drug has been too short to allow an answer to the question of the likelihood of relapse or recurrence of infection after apparent cure.

Intelligent use of griseofulvin is dependent upon a basic knowledge of dermatology and mycology.

As of now, griseofulvin, taken by the oral route, has shown no serious toxic properties. An occasional instance of urticaria has necessitated discontinuation of the drug. Further large-scale, long-term experience with this medication and trials of various dosage schedules will eventually reveal more information regarding both curability and toxicity.

If future developments confirm our present impression of the specificity of griseofulvin in superficial dermatomycoses and its low toxicity, an amazing advance in dermatologic therapy will have been made.

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BIBLIOGRAPHY

1. STERNBERG, T. H., AND NEWCOMER, V. D., editors: Therapy of Fungus Diseases: An International Symposium. Presented June 23–25, 1955, by Division of Dermatology, Department of Medicine, School of Medicine and Medical Extension, University Extension, University of California at Los Angeles. Boston: Little, 1955.
2. BLANK, H.: Antifungal antibiotics in clinical medicine. A.M.A. Arch. Dermat., 1957, **75**, 184.
3. GENTLES, J. C.: Experimental ringworm in guinea pigs: oral treatment with griseofulvin. Nature, London, 1958, **182**, 476.
4. RIEHL, G.: Griseofulvin: an orally active antibiotic, presented before the meeting of the Austrian Dermatologic Society in Vienna, November 27, 1958.
5. WILLIAMS, D. I., MARTEN, R. H., AND SARKANY, I.: Oral treatment of ringworm with griseofulvin. Lancet, 1958, **2**, 1212.
6. BLANK, H., AND ROTH, F. J., JR.: Treatment of dermatomycoses with orally administered griseofulvin. A.M.A. Arch. Dermat., 1959, **79**, 259.
7. GOLDFARB, N., AND ROSENTHAL, S. A.: Griseofulvin—oral antifungal antibiotic. Current M. Digest, 1959, **26**, 67.
8. PIPKIN, L., AND RESSMAN, A.: Griseofulvin treatment of tinea capitis—The Schoch Letter. Current News in Dermatology, May 1959.
9. WEINER, M. A.: Simple efficient method of examining skin scrapings for fungi. Arch. Dermat. & Syph., 1950, **62**, 709.

PHENFORMIN (DBI) IN THE MANAGEMENT OF DIABETES MELLITUS*†

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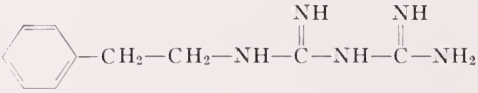
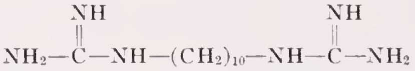
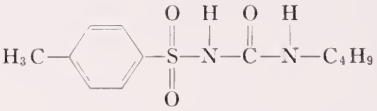
PHENFORMIN (DBI) is a new oral antidiabetic agent. It is a synthetic organic compound in the biguanide series and has a chemical name of N′-betaphenethyl biguanide hydrochloride. Its structural formula (figure 1) differs from the diguanide Synthalin, a hypoglycemic agent investigated by Frank[1] in 1926 but abandoned a few years later because of observations of hepatic and renal toxicity in experimental animals. It also differs from tolbutamide and chlorpropamide and lacks the sulfonyl radical characteristic of the latter compounds.


Phenethyl-formamidinyliminourea (Phenformin, DBI)


$NH_2-\overset{\overset{NH}{\|}}{C}-NH-(CH_2)_{10}-NH-\overset{\overset{NH}{\|}}{C}-NH_2$

Guanidine-deca-methylene-guanidine (Synthalin)


1 butyl-3-p-tolysulfonylurea (Orinase, tolbutamide)

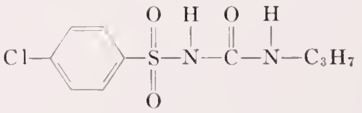
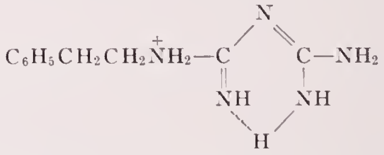

N-propyl-N′-p-chlorobenzenesulfonylurea (Diabinese, chloropropamide)

Fig. 1. Structural formulae of oral hypoglycemic agents.

Chemistry and Metabolism

Phenformin is a water-soluble crystalline compound. According to Shapiro[2] it is a strongly basic drug and functions at physiologic pH in ionic form as an internal 6-membered hydrogen-bonded ring (figure 2). Following the oral administration of DBI labelled with C^{14} in the phenethyl grouping Wick[3] demonstrated the


Cationic form of DBI at physiological pH

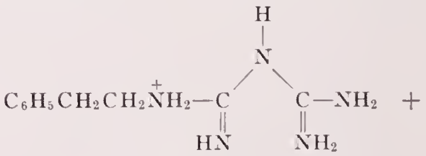

Cationic form of DBI at pH of gastric juice

Fig. 2. Ionic forms of DBI responsible for its metabolic effect (Shapiro[2]).

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† The phenformin used in this study was supplied as DBI through the courtesy of Dr. Harvey S. Sadow of the U. S. Vitamin & Pharmaceutical Corporation, New York 17, N. Y.

C^{14} label to be largely distributed in gastric juice and liver with smaller amounts in muscle. The labelled material was eliminated via the kidneys in 24 hours.

Mode of Action

Ungar, Freedman and Shapiro[4] reported hypoglycemia after oral administration of DBI to normal Rhesus monkeys and satisfactory control of the blood sugar in animals made diabetic with alloxan. In the nondiabetic human given doses of DBI up to 400 mg. per day Fajans, Moorhouse and Conn[5] reported no significant hypoglycemia and no changes in glucose tolerance, sensitivity to insulin, or glucagon-induced hyperglycemia. However, in diabetic patients a blood sugar-lowering response to DBI has been well documented by Pomeranze, Fujiy and Mouratoff.[6]

In vitro and some in vivo animal studies by Ungar,[7] Williams and his associates,[8] Steiner and Williams,[9] and Wick et al[10] indicate that DBI may act by influencing oxidative metabolism, thereby increasing anaerobic glycolysis and decreasing gluconeogenesis from protein. However, Fajans[5] was unable to demonstrate the inhibition of gluconeogenesis in diabetic patients. Although transient increases in blood lactate levels occur following DBI, the disappearance of glucose from the metabolic pool and the decrease in glycosuria cannot be accounted for by the urinary excretion of lactate. Thus, the theory of increased anaerobiosis has been questioned by Tranquada[11] and Madison.[12] Further observations by Madison[12] showed no significant increase in the arteriovenous blood glucose differences during DBI's action. Thus, it does not seem likely that DBI increases the utilization of glucose by peripheral muscle tissue. It has been suggested that DBI may increase the cellular utilization of glucose via the hexose monophosphate shunt in adipose tissue or the liver. This mechanism is now being explored by Madison.

By measuring plasma hydrocortisone levels in diabetic patients before and after DBI administration as well as after ACTH stimulation Bergen[13] showed no action of DBI on the adrenal-pituitary axis.

Does DBI potentiate exogenous insulin? Bolinger[14] found a definite increase in glucose uptake of the isolated rat diaphragm when DBI was added to insulin in the incubation medium. In addition, DBI does not interfere with the deposition of glycogen by insulin. In the unstable diabetic Weller and Macauley[15] report that DBI "appears to act as an insulin-supporting or re-inforcing compound."

Method of Study

This report includes patients studied in the hospital, in the outpatient clinics, and in private practice. In the hospitalized patients, levels of sugar in the blood (fasting and postprandial) and in the urine (before meals and at bedtime) were determined. Keto-acidosis, if present, was relieved by injections of regular insulin and parenteral fluid. Later a measured diet was prescribed and control maintained by doses of regular insulin given fractionally according to urinalyses. The insulin dose ranged from 5 to 25 units depending on the amount of glucose and acetone present. DBI was then added to the régime usually with a dose of 25 mg. 3 times daily before meals. If control with DBI was effective it was usually manifested in a few days by decrease in insulin requirement, reduction in blood and urine sugar levels, and an increase in a feeling of well-being of the patient. If control was not attained at this dose level, DBI was increased by 25 mg. increments until a satisfactory response was noted. After a 10-day trial, if DBI seemed ineffective it was discontinued and the insulin dosage adjusted for control.

Management with DBI was considered satisfactory if the average daily fasting blood sugar was substantially reduced and was in the region of 175 mg. per 100 ml. or below. Urine tests were required to be negative or show less than

TABLE 1

Effect of DBI Therapy on Insulin Requirements

Patient	Age	Duration of Diabetes (years)	Average Insulin Requirement		Average Blood Sugar		Dose (mg./day DBI)
			Before	After	Before	After	
1*	47	20	50	0	259	177	100
2*	20	7	68	40	279	218	100
3*	45	6	65	40	221	80	100
4	73	10	15	5	167	131	50
5	65	19	85	60	390	236	150
6*	54	19	35	0	236	163	100
7*	60	13	45	10	229	110	100
8*	58	1	20	0	144	179	150
9*	50	6	25	0	223	178	200
10	55	31	40	0	84	110	100
11*	88	12	45	0	220	100	25
12	63	17	25	0	93	106	50
13*	21	19	80	30	226	90	100
14	76	6	20	0	230	133	50
15*	32	10	100	70	234	140	75
16*	59	16	25	0	157	180	75
17*	56	12	50	50	292	194	50
18	55	5	20	0	97	76	50
19	55	3	30	0	110	149	75
20	43	6	35	0	180	140	25

* Previous failure with tolbutamide or chlorpropamide.

¼ per cent sugar. When at least 3 days' observation indicated these requirements had been attained, patients were given a supply of medication and discharged, to be followed in the clinic or office. Particular stress was made on the need for frequent urine tests at home, and a written record of the results was requested. On the return visit the patient was examined, home urine tests reviewed, and the fasting blood and urine sugar for that day determined. If most of the urine tests were reported negative and if the blood sugar was below 120 mg. per 100 ml., the dose of DBI was reduced by 25 to 50 mg. If the blood sugar was between 120 and 175 the dose was maintained the same. If it was above 175 and the urine tests showed considerable amounts of glucose, the dose was increased by 25 mg. increments until the blood and urine sugar levels showed better control.

In a similar manner the patients not hospitalized were given the drug and requested to test the urine at home before every dose of DBI. Those taking insulin were given DBI concomitantly. Usually the dose of insulin was lowered by decrements of 10 units as control was maintained by a constant dose of DBI, until eventually no insulin was needed or an optimum combination of insulin and DBI was obtained. If the blood and urine tests showed increasing amounts of glucose, DBI was stopped and insulin dosage adjusted until control was regained. Patients were seen at weekly intervals until management was considered satisfactory; thereafter the frequency of visits was decreased as improvement progressed.

TABLE 2

Patients Responding to DBI Not Satisfactorily Controlled with Tolbutamide or Chlorpropamide

Patient	Age	Duration of Diabetes (years)	Dose (mg./day)		Average Blood Sugar		Dose (mg./day DBI)
			Tolbutamide	Chlorpropamide	Before DBI	After DBI	
1	36	1		500	316	196	100
2	69	1/6	1,000		206	174	125
3	62	3	1,000		202	125	75
4	57	11		750	202	140	75
5	72	5	1,500		208	173	75
6	35	4	1,000		285	166	150

Those patients taking tolbutamide or chlorpropamide but with persistent glycosuria and fasting blood sugar always above 200 mg. per 100 ml. were considered not adequately managed. They were placed directly on DBI and followed in the same manner as above.

TABLE 3

Patients Satisfactorily Managed with DBI Not Previously Controlled with Diet Alone

Patient	Age	Duration of Diabetes (months)	Dose (mg./day DBI)	Average Blood Sugar under		Duration of Treatment (months)
				Diet	DBI	
1	51	1	100	264	114	5
2	52	1	100	300	163	2
3	82	1	50	254	66	2

Earlier, we mentioned the difference in chemical structure and mode of action of the sulfonylurea compounds and DBI. It would seem reasonable to employ DBI in combination with tolbutamide or chlorpropamide in those patients who seem to be slipping out of control with these drugs. We are observing such a patient at present who seems to be responding to DBI in combination with chlorpropamide.

An occasional, newly discovered diabetic was given DBI when control on diet alone proved ineffective.

DOSAGE

Phenformin (DBI) was made available in uncoated tablets containing 25 and 50 mg. Most patients were started with 75 mg. per day given as 25 mg. 3 times daily before meals. If this proved ineffective an additional 25 mg. was given at bedtime. Doses over 150 mg. per day were associated with increased incidence of gastrointestinal side-effects. The dose was decreased, usually by decrements of 25 mg., when good control as manifested by lowered fasting blood sugar and negative urine tests was noted. Several patients were satisfactorily managed with as little as 25 mg. a day. Most patients required between 75 and 150 mg. daily.

RESULTS

The overall results of therapy with DBI in this group of patients are presented in tables 1 through 4. A total of 46 patients have been followed for 1 to 7 months (as of March 1, 1959). Of these, 30 (65 per cent) showed adequate control either on DBI alone or in combination with insulin at a lowered requirement.

Figure 3 illustrates the good response of a patient with DBI who had been taking insulin for 20 years and who was primarily unresponsive to tolbutamide and chlorpropamide. Unfortunately he moved away and treatment had to be stopped after 7 weeks' observation.

Several patients previously classified as unstable diabetics showed a good response to DBI. Figure 4 is an illustrative example.

TABLE 4

Patients Not Satisfactorily Managed with DBI

Patient	Age	Duration of Diabetes (years)	Previous Treatment			DBI Treatment		Reasons for Discontinuing DBI
			Drug	Dose	FBS	Dose (mg.)	FBS	
1	70	1	Tolb.*	3.0	234	50	217	Diarrhea
2	70	20	Ins.†	35	220	75	?	Diarrhea and vomiting
3	39	2	Ins.	13	228	100	220	Anorexia
4	59	11	Ins.	65	392	150	371	Ineffective
5	60	14	Ins.	24	234	75	?	Ineffective
6	21	18	Ins.	80	303	100	434	Ineffective
7	65	19	Tolb.	1.5	242	100	221	Headache and anorexia
8	73	6	Ins.	20	316	75	400	Ineffective
9	40	7	Ins.	60	307	100	350	Ineffective
10	60	6	Chlor.‡	0.75	243	25	208	Ineffective
11	36	2	Chlor.	0.75	423	150	314	Ineffective
12	68	18	Ins.	70	212	75	212	Nausea and vertigo
13	28	13	Ins.	50	128	50	80	Nausea and vertigo
14	67	8	Tolb.	1.0	264	100	204	Nausea
15	48	7	Ins.	90	320	75	296	Nausea
16	48	6	Ins.	35	180	75	150	Nausea and vertigo
17	61	⅓	Diet		239	50	200	Ineffective

* Tolbutamide dose in Gm.

† Insulin dose in units.

‡ Chlorpropamide dose in Gm.

We previously reported a high percentage of success with tolbutamide and chlorpropamide in middle-aged patients with relatively recent onset of diabetes.[16, 17] The same good results in this type of diabetic were noted with DBI (figure 5).

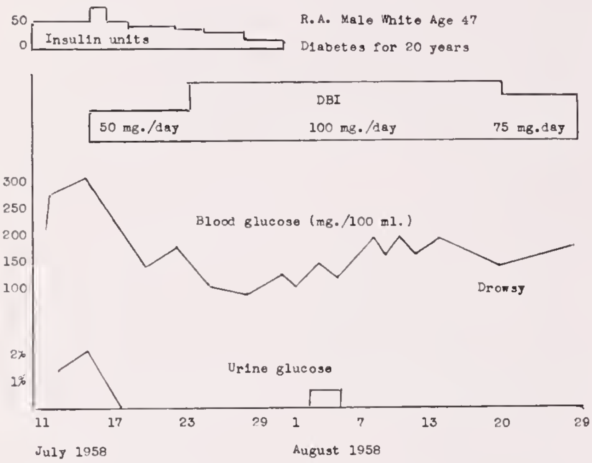

FIG. 3. Good control with DBI after gradual withdrawal of insulin in a patient previously resistant to tolbutamide and chlorpropamide.

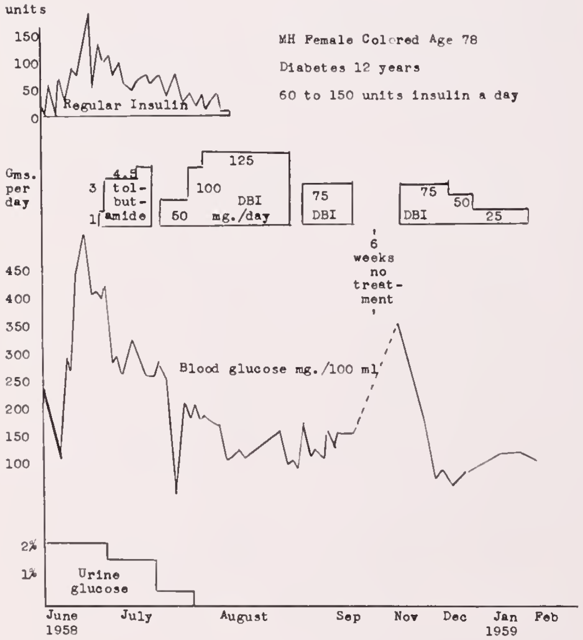

FIG. 4. Good control of an unstable diabetic with DBI.

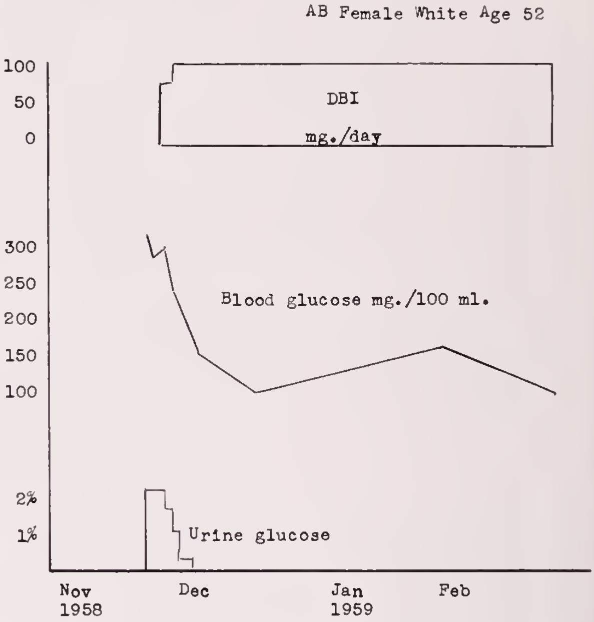

FIG. 5. Newly discovered diabetic, easily controlled with DBI.

A summary of the effectiveness of DBI in the different classes of diabetics is shown in table 5.

TABLE 5

Results of Treatment

Number of patients previously treated with insulin	31	
Satisfactory control with DBI alone	12	
Control improved by adding DBI	7	
Benefited by DBI	19	(61%)
Number of patients treated with previous tolbutamide or chlorpropamide failure	38	
Satisfactory control with DBI	12	(32%)
Number of patients not controlled on diet alone	4	
Satisfactory control with DBI	3	(75%)
Total number of patients treated with DBI	46	
Satisfactory control	30	(65%)

TOXICITY

The usual precautionary laboratory studies* (serial blood and urine examinations, liver and kidney function tests, and thyroidal uptake of radioiodine) were made on the hospitalized patients. No unusual effects on bone marrow, liver, kidney, or thyroid have been noted to date. No skin reactions and no hypoglycemic symptoms with DBI alone have been noted. Gastrointestinal side-effects of anorexia, nausea and diarrhea were the most frequent reactions (table 6). Frequently these were relieved by giving amphetamine, 2.5 mg., with each dose of DBI. Symptoms usually developed on the third or fourth day of therapy and appeared sometimes with as little as 50 mg. If symptoms were severe, it was difficult to induce the patient to continue the drug. Headache, vertigo, and drowsiness are not explainable. One patient obtained relief by drinking extra water when these symptoms appeared.

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* We are grateful to Dr. C. J. Burns, pathologist, Prince Georges General Hospital, and his laboratory staff for their kind assistance in performing these tests.

TABLE 6

*Side-reactions to DBI**

	No. of Patients†
Anorexia	6
Headache	5
Nausea	5
Diarrhea	3
Drowsiness	3
Acetonuria without glycosuria	3
Vertigo	2
Vomiting	1

* 2 or more of the above reactions were noted in several patients.

† Of a total number of 46 patients treated.

The appearance of acetonuria without glycosuria usually was associated with lowered blood sugar levels and is thought to represent a "starvation ketosis" due to diminished carbohydrate intake.

In some respects the side-effects of DBI resemble those of digitalis and probably indicate a need for lowered dosage or temporary withdrawal.

Summary

In the diabetic patient it has been suggested that DBI acts by increasing anaerobic glycolysis and decreasing gluconeogenesis from protein. These actions are not confirmed by clinical observation. Other pathways for the influence of DBI on the disappearance of glucose from the metabolic pool are now being explored.

Of the 47 patients studied, DBI was effective in a significant proportion of stable and unstable mature diabetics. The reduction in insulin requirements would indicate that DBI amplifies or potentiates insulin. DBI is also effective in some patients who are primary and secondary sulfonylurea failures.

Unstable diabetics of any age should be managed with insulin before trial with DBI.

It is suggested that the starting dose of DBI should be 25 mg. 2 or 3 times a day. The incidence of gastrointestinal side-effects increases rapidly with doses of more than 150 mg. per day.

BIBLIOGRAPHY

1. Frank, E., Nothmann, M., and Wagner, A.: Klin. Wchnschr., 1926, **5**, 2100.
2. Shapiro, S. L.: Chemical properties of DBI, presented at the Symposium on a New Oral Hypoglycemic Agent, Phenformin (DBI) at the Texas Medical Center in Houston, February 5 and 6, 1959.
3. Wick, A.: Data presented at Symposium on Phenformin.[2]
4. Ungar, G., Freedman, L., and Shapiro, S. L.: Proc. Soc. Exper. Biol. & Med., 1957, **95**, 190.
5. Fajans, S. E., Moorhouse, J. A., and Conn, J. W.: Metabolic effects of phenethylbiguanide (DBI) in healthy subjects and in diabetic patients, presented at Symposium on Phenformin.[2]
6. Pomeranze, J., Fujiy, H., and Mouratoff, G. T.: Proc. Soc. Exper. Biol. & Med., 1957, **95**, 193.
7. Ungar, G.: Toxicology and pharmacology of DBI, presented at Symposium on Phenformin.[2]
8. Williams, R. H., Tyberghein, J. M., Hyde, P. M., and Nielsen, R. L.: Metabolism, 1957, **6**, 311.
9. Steiner, D. F., and Williams, R. H.: Clin. Res., 1958, **6**, 55.
10. Wick, A. N., Larson, E. R., and Serif, G. S.: J. Biol. Chem., 1958, **233**, 296.
11. Tranquada, R. E., Kleeman, C., and Brown, J.: Acute effects of DBI on human hepatic intermediary metabolism, presented at Symposium on Phenformin.[2]
12. Madison, L. L., and Unger, R. H.: Comparison of effects of DBI on blood glucose concentration and on peripheral glucose utilization in normal and diabetic subjects, presented at Symposium on Phenformin.[2]

(Continued on page 476)

TOXEMIA OF PREGNANCY FROM AN INTERNIST'S STANDPOINT*

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SEVERAL YEARS AGO in conjunction with the Obstetrical Department a toxemia clinic was instituted at the D. C. General Hospital. From the internist's standpoint it soon became apparent that the diagnosis "toxemia" served as a wastebasket for a variety of symptoms characterized by edema, hypertension or albuminuria. Although these findings were certainly consistent with toxemia, they were not diagnostic. It was found that, in addition to toxemia, these findings may represent hypertensive vascular disease, pyelonephritis, glomerulonephritis, or any combination of these. This presentation is concerned with the diagnostic breakdown of 2,754 patients followed in the clinic and the differential diagnosis of these conditions.

Methods and Materials

Patients were referred to the toxemia clinic at the first sign of toxemia; there they were followed at weekly intervals throughout pregnancy, then in the hospital, and finally back in the clinic until all signs and symptoms of toxemia had disappeared. Since the incidence of toxemia is greatly increased in patients under 16 years of age (and one-fourth of the clinic patients are under 16), we have asked the obstetricians to let us follow all pregnant patients under 16 years.

Besides the usual obstetrical examination, including weekly blood pressure determinations and complete urinalysis, ophthalmoscopic examination through dilated pupils was performed at each visit.

Results

The diagnoses in the 2,754 patients are seen in table 1. It can be noted that although 95 per cent of the patients referred to the clinic were originally diagnosed as toxemia by the obstetricians, only 10 per cent had toxemia by our criteria. Excluding the 602 patients without disease, 70 per cent of the clinic population were diagnosed as hypertensive vascular disease.

TABLE 1

Diagnoses in 2,754 Patients

Diagnosis	No. of Patients
Hypertensive vascular disease	1,397
Hypertensive vascular disease plus toxemia	153
Pure toxemia	274
Pyelonephritis	175
Edema without disease	75
No disease	602
Questionable diagnoses	78
Total	2,754

HYPERTENSIVE VASCULAR DISEASE

The average age of the patients with hypertensive disease was 28 (14–43) years. These patients showed no edema, and albuminuria was either entirely absent or present only in trace amounts. Ophthalmoscopic examination was either normal or demonstrated arterial changes of chronic vascular disease such as arteriovenous nicking or compression.

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* Presented before the Conference on Toxemia of Pregnancy, November 25, 1958, during the 27th Annual Scientific Assembly of The Medical Society of the District of Columbia.

The history and physical findings of a 15-year-old girl in the eighth month of her first pregnancy are of interest in this regard. Physical examination revealed an arterial pressure of 150/100 mm. Hg and slight ankle edema. Ophthalmoscopic examination revealed arteriovenous nicking but absence of arterial spasm and retinal edema. Urinalysis was normal.

Without examination of the retina most of these patients, particularly the group under 20 years of age, would be classified as toxemia. Ophthalmoscopic evidence of chronic vascular disease and the absence of vasospasm in a pregnant patient is reassuring to the physician, because this indicates a patient with hypertension who happens to be pregnant. Indications for therapy are the same as if the patient were not pregnant, for example, cerebral, cardiac or renal impairment—not just an elevated blood pressure reading.

PYELONEPHRITIS

One hundred and seventy-five patients with pyelonephritis masquerading as toxemia of pregnancy have been followed in this clinic. Eighty-seven patients were antepartum; 88 patients were postpartum. None of these patients noted genitourinary symptoms, e.g., flank pain, or burning or frequency of urination. The diagnosis was made solely by microscopic urinalysis, glitter-cell stain, and urine culture. Antepartum the patients were referred to the clinic with the diagnosis of either toxemia or hypertensive vascular disease plus toxemia, and postpartum the patients were referred to the clinic because of persistent albuminuria. The following 2 case reports serve to exemplify some of the above diagnostic points.

Case 1. A 16-year-old girl was referred in the sixth month of her first pregnancy because of a rise in diastolic pressure from 60 mm. Hg to 85 mm. Hg and development of edema and albuminuria. She was asymptomatic. Physical examination revealed the blood pressure to be 130/90 mm. Hg and 2+ peripheral edema. There was no abdominal, suprapubic or costovertebral angle tenderness. Ophthalmoscopic examination was normal. Urinalysis revealed 2+ albuminuria and clumps of white blood cells. Supravital staining of the sediment revealed the presence of glitter cells, and urine culture grew *E. coli.* Following 2 weeks of therapy on sulfisoxazole the arterial pressure had fallen to 110/60 mm. Hg, edema, albuminuria and glitter cells had disappeared, and urine culture had become negative. The remainder of her pregnancy and her delivery were uneventful.

The triad of hypertension, edema and albuminuria in a pregnant patient, particularly in a 16-year-old primigravida, was naturally considered toxemia. A second diagnosis was not even considered. Without microscopic urinalysis the diagnosis of pyelonephritis would not have been made and the toxemia would have continued unabated. This is a treatable type of toxemia and a preventable type of hypertension.

Case 2. An 18-year-old girl was referred to the clinic 6 weeks after her first pregnancy because of persistent albuminuria. Her pregnancy had been uneventful until 1 week before term, when there was a rise in arterial pressure from 100/60 mm. Hg to 140/100 mm. Hg and development of edema of the periorbital area, hands and feet. Ophthalmoscopic examination revealed retinal vasospasm and edema, and urinalysis revealed 3+ albumin but no white blood cells. Veratrum and diuretic therapy lowered the arterial pressure to 120/80 mm. Hg and caused a pronounced diuresis. Delivery was uneventful. The physical examination at time of discharge, 4 days postpartum, revealed an arterial pressure of 120/80 mm. Hg, no edema, and 2+ albuminuria.

At the 6-week postpartum examination the patient was asymptomatic. Physical examination revealed a blood pressure of 120/75 mm. Hg, no edema, and no abdominal, suprapubic, or costovertebral angle tenderness. Analysis of catheterized urine revealed 2+ albumin, clumps of white blood cells, and glitter cells. Urine culture grew *E. coli.* Therapy with sulfadiazine in the usual doses for 2 weeks caused complete clearing of the urinary findings. When seen again at 3 and 6 months postpartum the patient was asymptomatic, and complete urinalysis and urine culture were normal.

Persistence of albuminuria after a pregnancy with toxemia does not necessarily indicate renal damage due to toxemia. Again, undisputable evidence of pyelonephritis is seen in a completely asymptomatic patient. Failure to make the correct diagnosis in the postpartum period is particularly dangerous, since without symptoms the busy mother will have no reason to return to the physician until pregnant again, thus giving much time for the kidney infection to become well rooted.

TOXEMIA

Toxemia is characterized by a rise in diastolic pressure, edema, particularly of the periorbital areas, and albuminuria without clumps of white blood cells. Further, it is frequently accompanied by retinal sheen, a generalized wet glistening appearance of the entire retina and spasm of retinal arterioles.

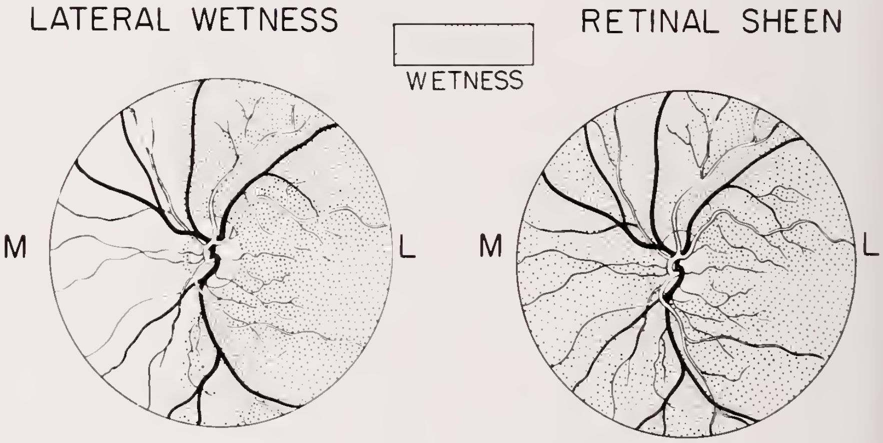

Fig. 1. Diagrammatic representation of medial and lateral retinal sheen.

The phrase, "a rise in diastolic pressure," is preferable to a specific level of diastolic pressure. Although the conventional 140/90 mm. Hg may well be the upper limit of normal for a group of women 25 to 35 years of age, a diastolic pressure of 90 mm. Hg is abnormal for the majority of women under 20 years of age. In our experience the average diastolic pressure in the group under 20 is 60 to 70 mm. Hg at 3- or 4-months' gestation, and the pressure remains at this level if the pregnancy remains uncomplicated. It is apparent, therefore, that a rise in diastolic pressure from 60 to 80 mm. Hg or from 70 to 90 mm. Hg is very significant in an individual patient—indeed, as significant as a rise in diastolic pressure from 90 to 110 or 120 mm. Hg. The cases of eclampsia reported as occurring with a normal arterial pressure undoubtedly fall into this category.

Only when edema involves the periorbital areas and hands should toxemia be considered. Certainly the presence of edema of the ankles in a pregnant patient in the last trimester does not indicate toxemia. Finally, as mentioned above, the presence of albuminuria in a pregnant patient makes microscopic urinalysis mandatory, since pyelonephritis is a treatable disease.

Because of the more intense light of the fundus camera and because the camera focuses only on 1 area and cannot be readily moved about, fundus photography does not accurately represent diffuse retinal edema. The retinae of young adults, and particularly children, have a wet, shiny appearance which is localized to the temporal portion (figure 1). This normal phenomenon is referred to as lateral sheen. This portion of the retina has a glistening appearance which seems to be covered by a thin film of fluid. Because of its fluid nature it causes many reflections of light when the ophthalmoscope is focused on the fundus. The many reflections of light on a wet street at night resemble this phenomenon. This wetness seldom crosses over to the nasal portion (with the disc as the midline). If it does extend, however, it is only immediately adjacent to the disc.

When this wetness is seen over the entire retina, both medially and laterally, retinal sheen is present. Although generalized, the wetness seems to be particularly along the course of the blood vessels, giving the impression that the vessels are imbedded in a fluid glove. The appearance of the retinal sheen is exactly that of lateral wetness. The difference is merely one of extent. Lateral wetness is localized; retinal sheen is generalized.

The retinal sheen is not a specific finding of toxemia, since it is also frequently seen in acute nephritis and the nephrotic phase of glomerulonephritis. It is not seen in other edematous states, however, such as congestive heart failure or ascites due to liver disease. Its real importance lies in the fact that it is not seen in hypertensive vascular disease and is usually present in toxemia. Its presence, therefore, enables one to differentiate toxemia of pregnancy from hypertensive vascular disease in a pregnant woman. From the practical standpoint it frequently appears before the more manifest signs of toxemia, e.g., before the elevated blood pressure, edema, or albuminuria, thus alerting the physician and giving him a "head start," as it were, for instituting therapy.

Differential Diagnosis

Although the findings of an elevated blood pressure, and/or albuminuria, and/or edema in a pregnant patient are consistent with the diagnosis of toxemia of pregnancy, they are by no means diagnostic of this condition. Besides toxemia, the diagnostic possibilities include hypertensive vascular disease, hypertensive vascular disease plus toxemia, pyelonephritis, and glomerulonephritis. An ophthalmoscopic examination and complete urinalysis enable the physician to differentiate these disease states promptly. Table 2 shows that toxemia is present when the ophthalmoscopic examination reveals a retinal sheen and spastic arteries and urinalysis reveals only albuminuria. Hypertensive vascular disease exists when the retinal arterioles show chronic vascular changes and no retinal sheen is present. When both chronic vascular changes and retinal sheen are seen on ophthalmoscopic examination, with or without albuminuria, toxemia is then superimposed on hypertensive vascular disease. The finding of normal fundi and albuminuria suggests pyelonephritis; clumps of white blood cells and glitter cells document the diagnosis. Although a retinal sheen and albuminuria are seen in both toxemia and acute glomerulonephritis, microscopic hematuria (occasionally gross hematuria) is seen more commonly in glomerulonephritis.

TABLE 2

Differential Diagnosis of Toxemia

Toxemia — Elevated B.P.
Toxemia — Albuminuria
Toxemia — Edema

	Ophthalmoscopic Examination		Urinalysis		
	Retinal sheen	Retinopathy	Alb.	W.B.C.	R.B.C.
Pure toxemia	√	0	√	0	0
H.V.D.	0	√	±	0	0
H.V.D. + Tox.	√	√	√	0	0
Pyelonephritis	0	0	√	√	0
Glomerulonephritis	√	0	√	√	√

THE "ONE-SHOT" HAY FEVER TREATMENT—FACTS AND FANCY*

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LAST FALL a small news item appeared in the local papers. This was a wire-service release issued from New York, and it merely stated that a one-shot "cure" for hay fever was being used successfully, and that in several cities, including New York, Boston, Washington, etc., this treatment was currently available. The public response to this news item was overwhelming. At least 100 patients or relatives of patients brought in this news item for more information, and about 20 or 30 doctors called to find out where they could obtain this material for treatment. This paper is an attempt to present some of the facts concerning this relatively new advance in allergy therapy which we call repository allergenic treatment.

From almost the earliest days of scientific allergy attempts were made to shorten the treatment period;[1, 2, 3] included were such methods as mixing the antigens with epinephrine, suspending pollens in olive oil, emulsification of the pollens in saline and pollen oils, etc. In spite of the success of these methods, at the time that they were reported later results proved no better than those achieved with conventional aqueous extracts, and so, in spite of early glowing promises, all of these plans of treatment were dropped in time.

The use of additional substances for the intensification of the antibody response originated with Pasteur.[4] Adjuvants are substances which, when mixed with antigens, improve antibody production. These substances may be antigenic, like killed microörganisms or their toxins, or nonantigenic, as alum and mineral oils. We are all familiar now with the use of alum-precipitation of diphtheria toxoid, tetanus toxoid, and pertussis vaccines as a means of purifying these antigens and producing higher antibody titres and longer immunity.

Mixtures of mineral oil with aqueous preparations of antigens, emulsified with lanolin, were introduced by Freund,[5] and this procedure has served as the foundation for our new repository extracts. The addition of killed tubercle bacteria to these emulsions increases their antigenic effects, but because it also produces sterile abscesses, the new repository allergens are prepared without the use of the tubercle bacilli. The mechanism of the actions of the adjuvants is not entirely understood. They may bring the antigen into particulate form and so enable the antigen to be easier taken up by the phagocytes. They may cause the antigen to remain in the tissues much longer, and, finally, the irritating effects of these substances may act to stimulate increased antibody production.

In 1947 Loveless,[6, 7] as part of a study concerned with blocking antibodies, began using these adjuvants with ragweed pollen extracts. This was the beginning of our present repository antigens. The present extracts are prepared, in general, as follows: 1 part of the antigen (which is a concentrated saline extract of the defatted pollen) is mixed with 2 parts Falba† (an absorption base derived from lanolin, which acts as an emulsifying agent). Aquaphor‡ could also be used in place of Falba, as could anhydrous lanolin. This mixture is then thoroughly homogenized in a Waring Blendor with 3 parts of a highly refined, light paraffin oil, such as Atreol No. 9.* The amount of antigenic material injected usually varies from 2,500 to 10,000 protein nitrogen units of the pollen extract.

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* From The Allergy Clinic, Washington Hospital Center, Washington 10, D. C.

† Falba—an absorption base, derived from lanolin made by Pfaltz & Bauer, Inc., New York, N. Y.

‡ Aquaphor—a base composed of derivatives of wool fat mixed with hydrocarbons, made by Duke Laboratories, South Norwalk, Conn.

The use of these repository extracts requires the acquisition of some new technics of treatment.[8, 9, 10] Each patient's dose is estimated on the basis of a series of titrated skin tests and eye tests. Then a long-acting oral antihistamine is given, followed by a subcutaneous injection of epinephrine above the area where the repository antigen is to be administered. Blood pressure and pulse rate determinations are then done at intervals of 5 to 10 minutes so that their increase may warn the physician of impending anaphylactic shock. The repository extract is then given, divided into 3 to 5 parts, into the same injection site at intervals of 15 minutes. After the final portion of extract is administered another dose of epinephrine in long-acting form follows subcutaneously in the other arm, and the patient is then kept under observation for another 2 hours in order to anticipate any delayed reactions. Thus it can be seen that 4 or 5 hours of careful, controlled treatment and observation is necessary for every patient treated with the repository antigen, and preparations must be made for the possibility of acute or delayed reactions occurring during the following 2 days. Clearly this is not a method for the faint-hearted patient or physician at the present time.

I personally feel that this method is a definite advance in the field of clinical allergy, and I also feel that eventually most of our treatments will be given along these lines. However, for the present, we should be realistic in our evaluation. I have, therefore, listed some of the common facts and fancies that are confusing to the general public.

Fancy no. 1. The 1-shot allergy treatment is a simple method, similar in simplicity and usage to the long-acting penicillin preparations. Fact no. 1. This method is a complex one with variable doses and multiple injections and requires careful preparation both before and after the treatment. Although it definitely shortens the time of treatment, it certainly does not obviate the need for careful, skillful and individual treatment that good conventional allergy treatment entails.

Fancy no. 2. This 1-shot antigen is in commercial production that any doctor can get at his corner drug store. Fact no. 2. This antigen is not in commercial production at the present time. Most of the reported cases have been treated with material hand-made at a single allergy research laboratory.

Fancy no. 3. The 1-shot treatment gets away from the bad reactions occasionally resulting from conventional allergy treatment. Fact no. 3. The reaction rate of this new method has been greater than that of conventional therapy at present, although attempts are being made to reduce this reaction rate.

Fancy no. 4. The well-established methods of a careful, detailed history, skin tests and evaluation are no longer needed in allergy therapy with this new method. Fact no. 4. All of the above controls must be most carefully performed with the repository antigens.

Fancy no. 5. This method will markedly reduce the cost of allergy treatment. Fact no. 5. Because of the complexity of the antigen preparation and the considerable length of time and care in the preparation and treatment of each patient, the cost at the present time has been parallel to that of conventional allergy therapy.

In conclusion, the repository antigens are a definite advance, and I feel that we should, in time, be able to reduce the doses, minimize the reactions, and achieve better results in the treatment of allergic diseases. However, I believe that at present we should proceed care-

(*Continued on page 476*)

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* Atreol No. 9—a light paraffin oil made by the Atlantic Refining Co., Newark, N. J.

USE OF DEPROL (MEPROBAMATE COMBINED WITH BENACTYZINE HYDROCHLORIDE) IN THE OFFICE TREATMENT OF DEPRESSION

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DEPRESSION presents a difficult problem for the psychotherapist. The depressed patient is often inaccessible except after much time and effort. Sunk in apathetic despair, he may either say nothing for long periods of time or cry so hard that he cannot communicate. In severe cases he has given up hope. He feels that there is no use in making the effort required of him since he has no real expectation of help. At the same time the effort required of him is really very great because of the mental and physical inhibitions that characterize his illness.

In contrast to the chemotherapeutic progress which has been made in recent years in the treatment of schizophrenia and the anxiety states, little advance has been made in the treatment of depression. Electroshock at higher amperage has proven effective, but is resisted and feared by the majority of patients. At lower amperage it is more acceptable but less effective. In many cases, perhaps in most, remission is temporary. The expense for patients of average means is high.

The older stimulant drugs have not proved satisfactory for the treatment of depression because they aggravate 3 of its most common symptoms, irritability, anorexia and insomnia. Recently a number of new drugs have been introduced for the treatment of depression, but all so far appear either inadequate or too toxic for general use.

Many ataraxics which are effective in neurotic and psychotic states often only deepen depression. An exception is the tranquilizer meprobamate which has been shown by a number of investigators,[1-4] including the present writer,[5] to relieve depression, particularly when associated with an anxiety state. This drug has recently been made available in combination with benactyzine hydrochloride, a central parasympathetic suppressant, which has also shown antidepressant properties[6-10] and, like meprobamate, has been reported unusually low in toxicity and side-effects. A study of the use of this combination* as an adjunct to psychotherapy is the subject of this paper.

TRIAL OF DEPROL

Eighty-seven patients were studied during a period of over 2 years. All were psychoneurotic, and all were seen in private psychiatric practice. Although diagnoses differed, the most prominent symptom in each case was severe depression. About half the patients either expressed suicidal wishes or were judged to be latently suicidal. Patients ranged in age from 16 to 70 years; the greater portion were 20 to 40 years old.

The usual starting dosage of Deprol was 1 tablet 4 times a day. (Each Deprol tablet contains 400 mg. meprobamate and 1 mg. benactyzine hydrochloride.) If necessary, this dosage was increased to 6 tablets per day, and then to 8. When depression was accompanied by severe anxiety and agitation or by intractable insomnia, patients also received 1 to 3 400 mg.

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* Supplied under the trade name Deprol by Wallace Laboratories, New Brunswick, N. J.

meprobamate (Miltown) tablets per day and 1 or 2 tablets at night.

Deprol was prescribed in conjunction with weekly psychotherapy. This was usually initiated on an individual basis and continued later, when indicated, on a group basis.

Medication was continued throughout the period of psychotherapy and usually also during a suitable adjustment period following its termination. As the patient returned to health and more normal self-assurance this support could gradually be withdrawn.

RESULTS

All except 2 of the 87 patients treated with Deprol were definitely helped by this medication.

Deprol was found most useful in patients with pronounced depressions characterized by apathy, withdrawal, and inability to perform. Such patients were relieved of their oppressive despondency and crying spells and became accessible to psychotherapy. They became more hopeful and more willing and able to expend effort to help themselves. They were able to sleep well, to enjoy their food again, to concentrate better, to make decisions and to return to normal activity.

Deprol was also effective in relieving the tension and anxiety which frequently accompany depression. Patients became more relaxed and calm, and thus better able to deal effectively with their problems.

The drug was less useful in agitated depressions than in the inhibited and anxious types.

ILLUSTRATIVE CASES

The following case histories illustrate the types of patients who were greatly helped by Deprol.

Case 1. A man, aged 51, had lost his job and had been out of work for several months at the time he was referred to me. Twenty years previously he had had a severe depressive episode. He had had 2 series of electroshock treatments with some improvement, but he was still unable to return to work. He was outspokenly suicidal (wanted something "to finish him off"). He had many unpleasant sensations, including a delusion that his "brains were switched." He was unable to concentrate or to do anything, stared into space, and could not sleep. He was treated in individual psychotherapy for several months, then in group psychotherapy. Concomitantly, he received 1 Deprol tablet 4 times a day, then 2 tablets 3 times a day, then 2 tablets 4 times a day. He also received 2 to 4 Miltown tablets per day and 2 before bedtime. Response was gradual but good and lasting. The patient is back on his job, able to go out on buying trips for his store, and to provide for himself and his wife. He still needs regular support, however, and continues to take Deprol.

Case 2. A girl aged 17, the child of separated parents, had a long-standing history of poor adjustment at home and at school. As a child she had had tantrums and fits of head-banging. She had come into conflict with the school authorities, was failing in her classwork, and had finally been taken out of school for a year and placed under a tutor. She had suicidal tendencies and required constant supervision. With 4 Deprol tablets a day, supplemented by 1 or 2 Miltown tablets at night, she improved greatly. She was able to return to school, do moderately well in her school work, and make a better adjustment at home.

Case 3. A woman, aged 47, was experiencing extreme symptoms of anxiety and depression associated with the menopause, together with numerous psychosomatic complaints. She had a terror of growing old and dressed like a high school girl. She had fears of impending death, felt that she was choking, and experienced precordial pain and gastrointestinal discomfort. She was unable to fall asleep at night. She was treated in both individual and group psychotherapy and concurrently with 8 Deprol tablets per day and 3 Miltown tablets. She is greatly improved. Her somatic symptoms are greatly diminished, she is able to sleep well, and has developed a more realistic attitude toward the process of aging.

Case 4. A 24-year-old man showed the classic depressive symptoms of chronic fatigue, insomnia, and inability to work, accompanied by panic states, claustrophobia, fear of heights, and somatic symptoms of difficult breathing and "painful heart." He had a job, but his employment was precarious since he was frequently absent from his work, and he was completely unable to get along with anyone. He was started in group therapy, and received first 4, then 6 Deprol tablets per day, supplemented by 1 Miltown tablet 3 or 4 times daily. Response was quite satisfactory after several weeks of treatment. The depression and anxiety were relieved, and the somatic complaints gradually disappeared. After several months he was able to work continuously without any absenteeism. He recovered sufficiently that he was able to take a course and pass an examination as a plumber.

Case 5. A 45-year-old woman had a long depressive history characterized by apathy, poor appetite, insomnia, feelings of guilt and worthlessness, and psychosomatic complaints. Her husband had been a mental patient for many years, and she was burdened with the care of a senile, demanding mother. She felt that her work was unappreciated and that her children did not want her. Her mood was latently suicidal. She was treated first in individual psychotherapy, and then in a group, and received 1 Deprol tablet 4 times a day and 1 Miltown tablet 3 times a day. The response has been most gratifying. After 9 months of treatment she is doing well in every way. She has lost her apathy, sleeps and eats normally, has a better opinion of herself, and altogether is making the best of a difficult situation.

Only 2 patients failed to experience any relief after 2 weeks of treatment with Deprol. One suffered from a severe involutional depression, with almost complete anorexia and resultant undernourishment. Her desperation and desire to die were so strong that she was almost inaccessible to psychotherapy. The second patient, a woman of 47, was agitated, confused, under great pressure of speech, and had prominent guilt feelings. She also was unable to respond to psychotherapy. In both cases the families of the patients were insistent that they be given electroshock, and, when no improvement occurred in 2 weeks, this was done. Both patients responded well to this treatment. It is very possible, however. that with patience and continued treatment with Deprol, even these patients would have improved without electroshock.

SIDE-EFFECTS AND TOXICITY

At the dosage used (up to 8 tablets of Deprol daily, often supplemented by 3 or tablets of 400 mg. Miltown) no side-effects were observed.

Opportunity was afforded to see what effects would result from overdosage of Deprol. Although families of suicidal patients were always warned to exercise close supervision over these patients and, if financially possible, to secure a nurse, this advice was not always heeded, and in 2 instances suicidal attempts were made.

The first was a young woman of 29 who had an unhappy marriage, largely due to the interference of her husband's rather old-fashioned parents. She had left her husband twice, but with each return arguments and physical fighting were renewed, and she suffered from a deep sense of failure and depression. At 5 o'clock one morning her husband phoned to say that she had swallowed at least 40 Deprol tablets. When seen shortly thereafter she was in a deep sleep but not in a coma. She could be wakened easily, and reflexes were present. The blood pressure was 110/70. The patient was kept under close observation but no treatment was given. By evening she was still somewhat drowsy, but the blood pressure was normal. She recovered without sequelae.

The second suicide attempt was made by a young woman of 25. There had already been several cases of mental disorder in her family, including a brother who was hospitalized with schizophrenia in a Veterans Administration hospital. The patient was immature and very dependent on her family. She had married a man younger than herself, equally immature, and promiscuous with other women. The patient became increasingly depressed, restless and agitated, and often experienced panic states. She expressed suicidal wishes, and her family, who could not afford a nurse, were warned to watch her 24 hours a day. This warning was not taken as seriously as it should have been, and one day the patient took 30 Deprol tablets in a suicidal effort. The effects were the same as in the previous case. The patient experienced a prolonged sleep, with slight temporary drop in blood pressure, and recovered without ill effects. She was continued on Deprol, 6 tablets a day, and is now greatly improved, working, and divorced from her husband, who left her.

SUMMARY

Eighty-seven severely depressed psychoneurotic patients were treated with Deprol (meprobamate combined with benactyzine hydrochloride) as an adjunct to psychotherapy in private practice. All except 2 patients were improved with this medication.

Deprol facilitated psychotherapy, improved mood and outlook, and acted as a shield during the convalescent period while the patient was working out emotional and social readjustments.

The drug is particularly effective in patients with pronounced depressions characterized by apathy, retardation, withdrawal, and inability to perform. Unlike most other drugs used for depression, it is also effective in controlling a wide spectrum of associated symptoms, particularly anxiety, tension, sleep disturbances, and psychosomatic complaints. Deprol does not depress appetite but permits its normal return as the patient improves. It is not a euphoriant; rather, patients taking the drug experience a return to a stable and normal mood.

Deprol appeared to be less useful in agitated depressions than in those characterized by retardation and anxiety.

In the present series no side-effects were observed. Two patients who attempted suicide by ingesting, respectively, 40 and 30 tablets of Deprol experienced prolonged sleep with slight, transient fall in blood pressure, but they recovered without treatment and without sequelae.

Deprol marks a definite step forward in the safe and effective treatment of depression.

BIBLIOGRAPHY

1. Hollister, L. E., Stannard, A. N., and Drake, C. F.: Treatment of anxious patients with drugs. Dis. Nerv. System, 1956, **17**, 289.
2. Phillips, R. E.: Use of meprobamate (Miltown) for treatment of emotional disorders. Am. Pract. & Digest Treat., 1956, **7**, 1573.
3. Selling, L. S.: Clinical study of Miltown, new tranquilizing agent. J. Clin. & Exper. Psychopath., 1956, **17**, 7.
4. Tucker, W. I.: The place of Miltown in general practice. South. M. J., 1957, **50**, 1111.
5. Ruchwarger, A.: Meprobamate in anxiety reactions involving depression. M. Ann. District of Columbia, 1956, **25**, 555.
6. Alexander, L.: Therapeutic process in electroshock and newer drug therapies; psychopathological considerations. J.A.M.A., 1956, **162**, 966.
7. Davies, E. B.: New drug to relieve anxiety. Brit. M. J., 1956, **1**, 480.
8. Jensen, O. O.: Suavitil in treatment of psychoneuroses. Danish M. Bull., 1955, **2**, 140.
9. Munkvad, I.: Treatment of psychoses and psychoneuroses with new sedative (Suavitil). Acta psychiat. et neurol. scandinav., 1955, **30**, 729.
10. Plichet, A.: New treatment of psychoneuroses—Benzilic acid diethylaminoethylester hydrochloride Presse méd., 1955, **63**, 1748.

GASTROSCOPY AND ESOPHAGOSCOPY: AN ANALYSIS AND DISCUSSION OF 1,752 PROCEDURES

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GASTROSCOPY and esophagoscopy in the past 25 years have been widely employed in the assessment of certain gastrointestinal diseases and have won a permanent place in the specialist's armamentarium of diagnostic procedures. The relative safety of these procedures has been emphasized repeatedly.[1-6] Their efficacy in the diagnosis of esophageal varices, esophagitis, gastritis, gastric and esophageal ulcers and malignant lesions, in locating the source of upper gastrointestinal hemorrhage, and in ruling out organic disease is discussed elsewhere.[7-12] With the development of the safer flexible instruments and their increased use in teaching centers over the country, these peroral endoscopic procedures have come to be widely employed by internists, including many who do not restrict their practice to gastroenterology. It seems worthwhile to reëvaluate the worth of these procedures and to review the indications for their utilization.

The present paper is an analysis of 6 years' experience in esophagoscopy and gastroscopy by one of us (B.H.S.). Its purpose is to outline the usual conditions encountered, their relative frequency, the frequency of unsatisfactory or incomplete examinations, and the complications incurred, and to discuss briefly the more important indications for these procedures.

Materials and Methods

Some 860 esophagoscopies in 661 patients and 892 gastroscopies in 805 patients were reviewed. More than 75 per cent of the examinations were performed by residents in gastroenterology or residents in internal medicine. The patient group consisted of military personnel, their dependents, and veterans seen both as inpatients and outpatients in 3 different Army hospitals (Letterman Army Hospital, San Francisco, California; Brooke Army Hospital, San Antonio, Texas; Walter Reed Army Hospital, Washington, D. C.). Preparation of the patient consisted of the avoidance of food and liquid after midnight. Premedication consisted of a barbiturate by mouth 1 hour before examination. A Pontocaine gargle (2 ml. of 2 per cent solution) was used 5 minutes before the examination. During the second half of the period under study no premedication or local anesthetic was used, but the patient was given 75 mg. meperidine intravenously immediately before the examination. The left lateral decubitus position recommended by Schindler was used for all examinations. The head was held and moved by a trained technician at the endoscopist's instructions. Although several different instruments were used, the vast majority of examinations were performed with the Cameron omniangle flexible gastroscope and the Eder-Hufford esophagoscope (which contains a flexible, rubber-tipped obturator). Roentgenograms of the esophagus and stomach were examined prior to endoscopy. Patients with physical abnormalities such as marked kyphosis or scoliosis, severe cervical osteoarthritis, aortic aneurysms, hypopharyngeal or upper esophageal disease or strictures, severe heart disease, and psychotic reactions were generally not examined. All dental prostheses were removed prior to endoscopy. Following endoscopy the patients were maintained at bed rest for 3 to 4 hours to avoid accidents while under the influence of meperidine.

RESULTS

Table 1 shows the results obtained from 892 gastroscopies in 805 patients and the percentage that were normal, abnormal, unsatisfactory because of inability to enter the stomach, or incomplete because of the inability to see the portion of the stomach accessible to visualization. When compared with table 2, which demonstrates these same results from 860 esophagoscopies in 661 patients, it will be noted that the lack of success were over twice as frequent with gastroscopy. This is primarily due to the anatomy of the esophagus, which allows adequate, complete visualization following successful introduction. Gastroscopy, on the other hand, to be complete requires adequate gastric air retention and a lack of excess secretions, and even then may be limited by variations in gastric contour. Tables 3 and 4 give the number of times each diagnosis was made, the number of patients (since multiple procedures were performed on some patients), and the percentage of each diagnosis of the total number of pathologic diagnoses (normals are excluded). Gastritis accounted for over two-thirds of the diagnoses made by gastroscopy, with gastric ulcer (either benign or malignant) running a poor second. By esophagoscopy the most rewarding diagnosis was that of esophageal varices; however, both

TABLE 1

Results of 892 Gastroscopies

Diagnosis	Number	Per Cent of Total
Normal	317	35.5
Unsatisfactory	92	10.3
Incomplete	49	5.5
Pathologic lesion	434	48.7
TOTAL	892	100.0

TABLE 2

Results of 860 Esophagoscopies

Diagnosis	Number	Per Cent of Total
Normal	290	33.7
Unsatisfactory	53	6.2
Incomplete	7	0.8
Pathologic lesion	510	59.3
TOTAL	860	100.0

TABLE 3

Relative Frequency of Abnormal Gastroscopic Findings

Diagnosis	Number	Patients	Per Cent of Diagnoses
Gastritis	341	280	69.3
Ulcer	88	55	17.9
Carcinoma	22	19	4.5
Polyps	13	11	2.6
Miscellaneous	28	25	5.7
TOTAL	492	390	100.0

TABLE 4

Relative Frequency of Abnormal Esophagoscopic Findings

Diagnosis	Number	Patients	Per Cent of Diagnoses
Varices	242	132	41.0
Esophagitis	180	108	30.5
Hiatal hernia	97	84	16.4
Carcinoma	27	16	4.6
Achalasia	15	10	2.6
Miscellaneous	29	2	4.9
TOTAL	590	352	100.0

esophagitis (predominantly peptic) and hiatal hernia were present in respectable numbers.

Further analysis of the major diagnoses noted by these peroral endoscopies is presented in tables 5, 6 and 7. Over 60 per cent of the cases of gastritis were associated with a previous subtotal gastric resection, a peptic ulcer, a gastric malignant lesion, polyps, or achlorhydria. Table 6 demonstrates a remarkably high incidence of esophagitis in association with hiatal hernia. This, however, is undoubtedly due to the fact that patients with hiatal hernia (discovered usually on X-ray examination) were referred to the gastroenterology section because of symptoms and not the X-ray findings.

TABLE 5

Gastritis: Frequency of Various Types Occurring Independently and in Association with Other Diseases of the Stomach

Gastritis—Types	Number	Patients	Per Cent of Total Gastritis
Associated with:			
Gastrectomy	112	104	32.4
Ulcer	72	63	20.8
Carcinoma	11	9	3.2
Polyps	10	9	2.9
Achlorhydria	5	5	1.4
Total	210	190	60.7
Unassociated:			
Hypertrophic	63	52	18.2
Superficial	39	35	11.3
Atrophic	17	15	4.9
Mixed	17	17	4.9
Total	136	119	39.3
Grand Totals	346	309	100.0

TABLE 6

Relationship of Esophagitis and Hiatal Hernia

	Examinations	Per Cent
Hiatal hernia (total)	93	100
Hiatal hernia with esophagitis	36	38.7
Hiatal hernia without esophagitis	57	61.3

Table 7 demonstrates the incidence of esophageal varices in patients diagnosed as having cirrhosis. This incidence should gradually decrease, since it is now our policy to esophagoscope everyone with cirrhosis, without regard for severity of the disease or past history of gastrointestinal hemmorrhage. This was not so earlier in this study.

TABLE 7

Incidence of Esophageal Varices in Patients with Hepatic Cirrhosis

	Number	Per Cent
Patients with cirrhosis	131	100
Patients with varices	106	80.9

Complications of the procedure are shown in table 8. Postendoscopy sore throat was not considered a complication. Of the 1,752 procedures performed there were only 3 complications, 1 of which resulted in significant morbidity. There was no mortality, and surgical intervention was necessary on only 1 occasion.

TABLE 8

Complications of Gastroscopy and Esophagoscopy

	Esophagoscopy	Gastroscopy	Total
Examinations	860	892	1,752
Perforations	3*	0	3
Morbidity	30 days	0	30 days
Surgery	1	0	1
Mortality	0	0	0
Others	0	0	0
Complication Rate	0.35	0.00	0.16

* Two were hypopharyngeal with recovery in 36 to 90 hours on NPO or liquid diet and antibiotics; 1 was midesophageal and required surgery for empyema, not clearing with medical treatment.

Discussion

The value of esophagoscopy in the more accurate diagnosis of esophageal varices has been well demonstrated by the studies of Brick and Palmer.[8, 10] Out of an unselected group of 172 patients with cirrhosis proven by biopsy, 108 patients (63 per cent) demonstrated varices by esophagoscopy, whereas only 24 patients (14 per cent) were shown to have varices by barium swallow, despite the fact that the radiologists were asked specifically to search for esophageal varices. Thus, only 22 per cent of the varices present were demonstrated by barium swallow, and these were the larger varices, the majority in patients who had had at least 1 hemorrhage. Schindler et al[13] also have demonstrated not only the advantages but the limitations of esophagoscopy. One-hundred and sixty-six patients were completely studied by X-ray examination and esophagoscopy and then followed until a diagnosis could be made. Of 56 patients whose X-ray examinations were negative, esophagoscopy demonstrated 13 diagnoses, these being hiatal hernia, carcinoma, esophageal varices, and esophagitis. Esophagoscopy permitted the additional diagnoses of gastritis in 5 patients with radiographically demonstrated hiatal hernia, and of esophagitis in 10 patients with X-ray diagnoses of hiatal hernia, stricture and malignant disease. Where X-ray and esophagoscopic diagnoses differed, the esophagoscopic diagnosis was most often the correct one. Of note, however, is that 5 of these 166 patients eluded proper diagnosis by both X-ray examination and esophagoscopy.

The difficulty in correlating the visual, microscopic, and clinical features of gastritis has been frequently emphasized. Atkins and Benedict,[14] in a series of 239 gastroscopies with concurrent biopsies, found that of 71 normal gastroscopies, 9 showed microscopic evidence of gastritis. However, only 2 of 30 gastroscopic diagnoses of chronic gastritis were verified histologically, and 23 were normal. Equally poor correlation was noted with the visual diagnosis of mixed (acute and chronic) gastritis, and the most accurate diagnosis (atrophic gastritis) was histologically confirmed in only 8 of 19 cases. Equally poor correlation has been noted by Joske, Finckh and Wood,[15] Ylvisaker et al,[16] and Palmer.[17] This has led the latter 2 authors to conclude that perhaps "hypertrophic gastritis" is not gastritis at all but a normal variant or an "unusual physiologic state." A different interpretation is placed on this poor correlation by Schindler.[18] He believes that the suction gastric biopsies are not of sufficient size nor proper location, even when multiple, to make a proper histologic diagnosis. He states that larger surgical specimens appear to correlate better with the gastroscopic picture. He thus thinks that the method of biopsy and not the gastroscopist is more often at fault. This same difficulty of interpreting what we see has been shown to exist in the studies of Wolf, Rossman, and Flood,[19] gastroscoping patients with subtotal gastric resections. Of a group of 62 asymptomatic patients having excellent results from surgery some 3½ years previously, and a group of 82 postoperative patients having recurrent symptoms of pain, bleeding and vomiting, there was no difference in the incidence of mucosal abnormalities (both were 50 per cent). The symptomatic group did demonstrate a greater multiplicity of findings (of injection, edema and large folds) per patient; however, 50 per cent of each group demonstrated normal mucosa in the gastric remnant. Most important, however, was the demonstration of 34 marginal ulcers in the symptomatic group, 14 of these being seen only at gastroscopy. Our incidence of postgastrectomy gastritis was much higher, chiefly because of the large number of patients who were gastroscoped very shortly after surgery.

The relative safety of these procedures is well documented. Through nationwide questionnaires, very large series have been collected, and papers by Schindler,[1] Jones,[2] Palmer,[3] and Hunter[4] show the incidence of perforation to be approximately 1 in 1,000 procedures. Most of the deaths in the past were secondary to esophageal perforation with subsequent mediastinitis and occurred chiefly with the use of the rigid instruments. Katz and Selesnick[5] have recently reviewed this subject briefly. It appears evident that gastric perforations are much more benign than those of the esophagus and usually require only conservative therapy. This does not imply that all esophageal perforations require surgery, because with antibiotics, close observation, and abstinence from oral intake many of these will heal rapidly. Of our 3 patients with complications (all perforations) only 1 required surgery. Of interest is a recent paper by Smith and Clifton.[6] They reviewed 259 gastroscopies in 219 patients, all of whom were at least 75 years old. In this geriatric group 20 per cent of these examinations revealed a gastric malignant lesion, and only 1 death and 1 perforation (in the same patient) resulted. This occurred in the pre-antibiotic era, and infection produced the death. It was thus concluded that, even in the aged, gastroscopy was safe and very productive diagnostically.

Conclusions

We believe gastroscopy and esophagoscopy to be useful and safe procedures.

It is our opinion that gastroscopy should be employed as a diagnostic measure in the following circumstances:

1. Upper gastrointestinal hemorrhage when the source is not definitely known.
2. Gastric ulcer, for aid in distinguishing the benign from the malignant and to evaluate the progress of the healing process.
3. Radiographic abnormalities of the stomach of questionable nature, which may be more accurately defined.
4. Upper gastrointestinal symptoms in the presence of normal radiographic studies, which may be occasionally explained by gastroscopic findings of unsuspected disease or of gastritis.

We believe that patients with the following symptoms or physical findings should have the benefit of esophagoscopy:

1. Upper gastrointestinal hemorrhage when the source is not definitely known.
2. Dysphagia or other symptoms referable to swallowing or the esophagus.
3. All patients with hepatic cirrhosis or evidence suggestive of portal hypertension.
4. Hiatus hernia with symptoms.
5. Any evidence of esophageal obstruction.

Summary

An analysis of 892 gastroscopies and 860 esophagoscopies has been presented.

The most frequent diagnoses made by gastroscopy were gastritis in 341 procedures and gastric ulcer in 88 procedures. Some 35.5 per cent of examinations were normal and 15.8 per cent unsatisfactory.

By esophagoscopy, esophageal varices were noted in 242 procedures, esophagitis in 180 procedures, and hiatal hernia in 97 procedures. Some 33.7 per cent of examinations were normal, and 7.0 per cent were unsatisfactory.

Gastritis was associated with subtotal gastrectomy, peptic ulcer, carcinoma, polyps or achlorhydria in 60.7 per cent of the examinations. Of the remainder, hypertrophic (18 per cent) and superficial (11 per cent) types were most common.

Of 94 patients with hiatal hernia examined, 38.7 per cent had associated esophagitis of some degree.

Of the 131 patients with proven cirrhosis esophagoscoped, 80.9 per cent had varices.

Complications were 3 perforations, 2 hypopharyngeal and 1 mid-esophageal, 1 requiring surgery, with no deaths, and all by esophagoscopy. The complication rate was 0.16 per cent.

BIBLIOGRAPHY

1. Schindler, R.: Am. J. Digest. Dis., 1940, **7**, 293.
2. Jones, F. A., Doll, R., Fletcher, C. M., and Rodgers, H. W.: Lancet, 1951, **1**, 647.
3. Palmer, E. D.: U. S. Armed Forces M. J., 1954, **5**, 974.
4. Hunter, R. C.: Gastroenterology, 1955, **29**, 898.
5. Katz, D., and Selesnick, S.: Am. J. Digest. Dis., 1956, **1**, 512.
6. Smith, J. N., and Clifton, J. A.: Gastroenterology, 1956, **30**, 676.
7. Palmer, E. D., and Brick, I. B.: New England J. Med., 1953, **248**, 1057.
8. Brick, I. B., and Palmer, E. D.: Gastroenterology, 1953, **25**, 378.
9. Benedict, E. B.: New England J. Med., 1955, **252**, 709, 759 and 809.

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President's Page

THE RELATIVE VALUE SCALE

Apparently some members do not understand the purpose and the use of the relative value scale recently approved by the Society. The relative value concept was first used in California where it has proved satisfactory and has been generally accepted by physicians there. This schedule relates all medical services of whatever type to each other through a standard called the "unit." Each service has an assigned value which may be one unit, a fraction of a unit, or any multiple of a unit depending upon the nature of the physician's service and the time and skill required to render it. At the present time, the unit does not have a monetary value, nor will it have until the scale is used in formulating a particular medical care program.

Such a scale is needed (1) in Medicare negotiations, (2) by Medical Service in planning a wider coverage for its subscribers, and (3) in negotiations with other groups who desire some type of prepaid medical care. The relative value scale may be used by the private physician should he wish to, in which case he would determine his own unit value. It should be emphasized that the relative value scale does not prescribe or suggest the fees that a physician in private practice should charge, nor is it a fee schedule for practice in the District of Columbia.

How is Medical Service expected to use this relative value scale?

At the request of the Society, Medical Service has been studying methods of expanding its sick benefits to include some of the services of general practitioners, internists, and pediatricians. It is expected that such a plan will be designed for the income groups of $6,000.00 or less per year, and that the dollar value assigned to a unit will reflect this. The dollar value of a unit must be such that it will provide the patient with the maximum of medical benefits at a cost he can afford, and at the same time give the physician reasonable compensation for his service.

It is my impression that a majority of the members of the Medical Society who have considered the problem posed by the costs of medical care understand that the public wants some form of prepaid medical insurance. The costs of medical care today are such that families in the low and medium income groups cannot meet the cost of a major illness without the aid of some form of insurance. By one means or another this must, and will be, provided. Therefore, a guide such as the relative value scale approved by physicians is essential to groups such as Medical Service and commercial insurance companies in planning programs to be offered to the public. No sound insurance program can be developed unless costs can be predicted with a fair degree of accuracy.

It is for these reasons that many in the Medical Society regard the acceptance of this relative value scale as an important and progressive step forward, one which holds great potentialities for providing prepaid medical care for those living in this area. Until such a standard was provided, neither Medical Service nor any other group could offer an acceptable plan for prepaid medical care with adequate coverage.

W. LeRoy Dunn

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Editorials

IMPARTIAL MEDICAL TESTIMONY

The tremendous increase in litigation involving personal injuries during the past few years has accentuated the importance of medical testimony, which in many instances has a crucial bearing on the issue of the amount of damages that should be awarded if the injured party is found entitled to prevail. Ordinarily such testimony is presented by one or more physicians in behalf of the plaintiff, and one or more physicians in behalf of the defendant. It partakes of a partisan presentation very frequently, the expert witnesses for the respective parties differing drastically from each other.

For example, in a case tried a few months ago before this writer a question arose whether a little child who was injured in a serious accident had sustained permanent brain damage. A neurologist called by the plaintiff testified that she

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

had, while a neurologist called by the defense expressed the opposite opinion. This question was vital, since the amount of damages that should be awarded turned on this matter. By way of another illustration in a case tried before this writer several years ago, there was a difference of opinion between the plaintiff's and the defendant's doctors as to whether one of the plaintiff's kidneys had become dislodged from its normal position, or whether it had remained in its normal position.

While drastic differences such as these do not arise in every case and perhaps not even in the majority of cases, they are, however, confronted in a sufficient number of instances to create a real problem. The jury, or the judge if the trial is without a jury, though laymen, are required to determine which of the medical witnesses is right. This is not a wholesome situation. It is not conducive to just results, and it is not a desirable thing for the medical profession. Many jurors under such circumstances return to the community with a feeling of frustration at the medical profession.

Several years ago this problem was successfully solved in New York City by the local courts with the coöperation of the local medical societies. A series of medical panels were established, one for each of numerous specialties. Members of those panels were designated by the medical societies. In those cases in which there was a sharp difference of opinion in medical testimony a member of the panel was designated to examine into the case impartially and give impartial testimony. In this connection it must be observed that a sense of partisanship is a part of the psychologic makeup of every human being to a greater or lesser degree. It is but natural for the plaintiff's physicians to look at the case from their patient's point of view, and for a physician retained by the defense to show an attitude of skepticism. An impartial doctor is free from this handicap.

Following the example of New York, a similar system has been established in Baltimore. Both in New York and in Baltimore the system is invoked only in those cases in which a sharp difference of opinion exists. It is at times used in preliminary negotiations that result in settlements, and at times for the purpose of trial.

At the Annual Meeting of the American Bar Association held in Dallas, in 1956, the Section of Judicial Administration approved this system and advocated its adoption wherever feasible. In July 1957 the House of Delegates of the Association, which is its governing body, unanimously approved it as one of the policies of the Association. As Chairman of the District of Columbia Committee of the American Bar Association on the Improvement of the Administration of Justice, I appointed a Subcommittee to endeavor to work out such a plan for the District of Columbia, and this Committee is now at work. Naturally, full coöperation on the part of the medical profession is indispensable. The adoption of such a system would not only promote the administation of justice but would also be helpful to the medical profession.

The only objection that is at times raised is that too much might depend on the judgment of the impartial medical witness. The answer to that objection is that, if desired, it is entirely possible to call two or three impartial medical witnesses in any case. Moreover, each party will still be at liberty to produce its own experts. It is hoped that the medical profession of the District of Columbia will coöperate in introducing such a system in this jurisdiction.

Alexander Holtzoff, LL.B.
United States District Judge;
Chairman, District of Columbia Committee of the American Bar Association on the Improvement of the Administration of Justice

THE PASSANO AWARD

Among a number of awards presented during the Annual Meeting of the American Medical Association, none is more highly prized than the Passano Foundation Award.

The Passano Foundation, named for the late Edward Boteler Passano, Chairman of the Board of Williams & Wilkins, was established in 1943. Mr. Passano devoted his career to establishing his firm as one of the leading medical publishers in the country. Neither John H. Williams nor Harry Wilkins, for whom the firm was named, it appears, had anything to do with its development as a medical publishing house. Mr. Passano directed its destinies from the beginning until his death in 1946.

STANHOPE BAYNE-JONES, M.D.

1959 Passano Award Winner

Since 1945 the Foundation has presented an annual award of $5,000 "to an American citizen who has recently made an outstanding contribution to the advancement of medical science." In selecting the recipient, primary consideration is given to the clinical value of his contribution and its probable practical application in the near future. Assisting the Directors of the Foundation in making their choice are outstanding research scientists and practicing physicians whose opinions are sought so that a "truly representative and irreproachable" award will be made.

Among those who have received the Award are Dr. Selman A. Waksman (1947), Drs. Helen B. Taussig and Alfred Blalock (1948), Drs. Edward C. Kendall and Philip S. Hench (1950), Dr. John Franklin Enders (1953), Dr. Vincent duVigneaud (1955), and Dr. George N. Papanicolaou (1956). Drs. Waksman, Kendall and Hench, Enders and duVigneaud subsequently received the Nobel prize.

The medical profession of Washington have a special interest in the 1959 Passano Award winner, this year's choice being Dr. Stanhope Bayne-Jones. Dr. Bayne-Jones, an Active member of the Medical Society of the District of Columbia, was formerly Technical Director of Research, Office of the Surgeon General, Department of the Army. Highlights of his distinguished career include the deanship of Yale University School of Medicine, the presidency of the Joint Administrative Board of the New York Hospital-Cornell Medical Center, and the presidency of The Society of American Bacteriologists. To recite all his important assignments and accomplishments here is not possible, but they add up to several lifetimes of activity for an ordinary man.

It was the privilege of the Secretary of the District Medical Society to be present not only at the reception but at the dinner where the presentation ceremonies were held. As was to be expected, the guest list was largely made up of those who had attained eminence in their respective fields in medicine. In fact, at the dinner it appeared there were as many medical luminaries in the audience as at the head table.

The ceremonies were brief but impressive. Dr. Louis M. Orr, President of the American Medical Association, paid high tribute to Dr. Bayne-Jones for his contributions to the practice of medicine. He was followed by Dr. Joseph C. Hinsey, Director of New York Hospital-Cornell Medical Center, who devoted his remarks to Dr. Bayne-Jones' contribution to medical education. The presentation of the Award "in recognition of a distinguished career as teacher, administrator, and strategic planner in the fields of medical research, education and service" was made by Mr. Robert S. Gill, current President of the Passano Foundation. Dr. Bayne-Jones responded with his usual modesty, giving much of the credit for his accomplishments to his wife. This, it was evident, was more than merely a gesture on his part, since he spoke feelingly of the many years during which she had given him invaluable assistance.

Thus an outstanding medical man was honored in a manner befitting his eminence in his chosen profession.

T. W.

"... MEDICAL COSTS AND WAR FEARS ..."*

Senator Wayne Morse of Oregon, a former law teacher, can point specifically to the Constitution of the United States as his guide in almost any controversy that arises.

In this situation, he quotes the preamble:

"We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, . . . do ordain and establish this Constitution for the United States."

"The principles of government must be implemented," he insists. "The general welfare, the promotion of the general welfare, is a duty and a responsibility of the Congress.

"This also means checking any power that is inimical to the welfare of the people. I am anxious to protect medicine's legitimate rights, but I'm not going to let the doctors or the hospital people write their own laws or stop us from writing the proper laws.

"Like all other laws, laws affecting medical care and medical costs and research and public health are laws for all the people, not just laws for the doctors and the hospitals. They are not going to be allowed to dictate laws that apply to the whole population, no more than labor is going to be allowed to write the labor laws that apply to the whole population.

"The doctors can't write their own ticket down here.

"In many of these situations the trouble comes because people—and members of the Senate included—are not able to apply abstract principles to concrete problems. The Constitution says plainly that the Congress is to promote the general welfare. This is our source of authority to pass laws that we think will improve the medical care the people are getting. But many people can't see that relationship and that obligation.

"In more specific terms, the health of the American people is a great source of wealth. The Government cannot sit idly by and see it destroyed."

The Senator, naturally, doesn't accept the claim of the medical profession that rapid progress is being made in bringing good medical care to all the people.

"I am not satisfied that the equality of health treatment is being attained. There is no reason why in our times there should be a variation of medical care based on families' various economic positions."

The Senator's opinion that health legislation and medical care are important issues with the

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* From an article, "Why Medical Care Costs Concern the Senate," by George E. Connery, which appeared in *Modern Hospital*, May 1959.

1958 PHYSICIAN'S AWARD TO DR. McLENDON

Dr. Preston A. McLendon (left) receives the 1958 Physician's Award for his work in the field of rehabilitation from Mr. Arthur C. Murr, representing the President's Committee on Employment of the Physically Handicapped.

people was reinforced, he said, by the results of an informal survey taken by his office early this year.

The Senator's newsletter had reached a circulation of 60,000. It was an expensive operation, and, besides, he suspected that there were too many people on the list who shouldn't be there, and that there were wrong addresses, etc. So a "sudden death" notice was sent out. If the readers didn't return the enclosed form within a certain time their names automatically would go off the mailing list. Also, on the form there was a space labeled just "Comments."

Of those who wrote any comment, Senator Morse said, a preponderance were concerned over the high cost of hospital and medical care. Why did costs have to be so high? Why were health insurance rates always going up? How do you get the money to pay for a long illness? The usual questions, of course, but their volume was surprising. Only one other subject—worry about a war—produced anywhere near as many questions as did medical care costs.

This was a straight, unrigged response. No subjects were suggested, nor were any even listed on the form.

If the Senator had any question about whether he was moving into an important field, one in which the people's concern was vital, that question was not removed.

"I was intrigued by the fact medical costs and war fears resulted in far more comments than all other subjects combined.

"Why these two? I think it's an expression of basic insecurity in the face of illness and war. In either case, the individual family has little or no control over its fate. There are two major and frightening specters — national devastation through an enemy attack and personal devastation, financial and physical, through an attack of illness."

The record over the last year shows Senator Morse is driving ahead in his investigation, and that, eventually, he probably will have all the facts spread out on the table where he wants them.

MEMBERSHIP

The following applicants for membership will be voted on at the meeting of the Executive Board, August 24, 1959.

For Active Membership

Victor L. Assevero, Howard University—1950
Martin B. Booth, Howard University—1955
Delbert Pinkerton Johnson, University of Kansas—1937
John B. MacGregor, University of Virginia—1938
Bernard Mathis Malloy, Vanderbilt University—1954
David N. Robb, George Washington University—1958
Luther D. Robinson, Meharry Medical College—1946
Irving M. Ryckoff, Howard University—1950
Donald Straus, Johns Hopkins University—1953
Azad J. Vosger, American University of Beirut (Lebanon)—1946

For Associate Membership

Joseph E. Bartkowski, Georgetown University—1951

PROCEEDINGS OF THE SPECIAL BUSINESS MEETING

A Special Business Meeting of the Medical Society of the District of Columbia was held on June 24, 1959 to consider the adoption of a new Workmen's Compensation Fee Schedule and the recently completed Relative Value Scale. Dr. W. LeRoy Dunn, President of the Society, presided. Present were 135 Active and Associate members and guests.

The Chairman called on Dr. Leonard T. Peterson, Chairman of the Committee on Industrial Health, who read the Committee's report, which follows these proceedings.

Following the reading of the above report, Dr. C. Willard Camalier, Jr., Chairman of the Committee on Medical Care, presented his Committee's report (page 454).

The Interim Report of the Executive Board containing recommendations with respect to reports of the Committees on Industrial Health and Medical Care was presented by Dr. Preston A. McLendon. (Report on page 455.)

The first recommendation of the Board—"That the Workmen's Compensation Fee Schedule as submitted by the Committee on Industrial Health be approved"—was discussed by several present and temporarily tabled. Later it was removed from the table and adopted.

The second recommendation—"that the Relative Value Scale as submitted by the Committee on Medical Care be approved with the understanding that such modifications as are indicated will be made from time to time under the direction of the Committee on Medical Care"—was discussed at some length. Several present expressed the view that changes in the Scale should be made. However, Dr. Raymond T. Holden moved—"that consideration of changes be excluded from the discussion of this report." His motion was carried, and the original recommendation as amended by Dr. Holden's motion was adopted.

The business session was preceded by the presentation of the 1958 Physician's Award to Dr. Preston A. McLendon by Mr. Arthur C. Murr, representing the President's Committee on Employment of the Physically Handicapped. Mr. Murr described the varied civic activities of Dr. McLendon. He had high praise for his contribution in the field of rehabilitation and considered it a privilege to present the award to so worthy a recipient. Dr. McLendon expressed his appreciation for the honor conferred upon him, emphasizing the great need for the active interest of all physicians in the Society's rehabilitation program.

REPORT OF THE COMMITTEE ON INDUSTRIAL HEALTH

During the past year the Committee on Industrial Health has been engaged in the revision of the Workmen's Compensation Fee Schedule. The previous schedule was adopted in May 1952. Since that time there have been increases in the cost of living, in medical costs, and in the benefits under Workmen's Compensation of from 20 to 30 per cent.

The Committee, under the chairmanship of Dr. R. Lomax Wells, approached the insurance carriers in 1957 with the proposal that fees be increased in proportion to the increase in the above costs. It perhaps should be explained here that local representatives of insurance companies can act only as intermediaries for the National Council, which is a national body representing most of the large insurance companies. Agreements reached, therefore, had to be relayed through the local representatives to the Council. This naturally slowed up negotiations considerably.

In July 1958 the insurance companies agreed in principle to a general increase in fees. However, no definite decision was reached with respect to the numerous items which made up the schedule. This, it was agreed, could only be accomplished by negotiation.

All Sections and specialty groups composed of Society members in fields where no Sections were organized were requested to submit recommended fees for the new schedule. The response to this request was prompt and gratifying. In several instances the Committee had meetings with Sections and specialty groups, following which there were conferences with representatives of insurance carriers. As can well be imagined, there were many such meetings.

The completed schedule was finally accepted by the representatives of the insurance companies and by the Committee on March 23, 1959, and submitted to the Society's Executive Board for its approval on the same date.

As has been previously stated, fees have been increased from 15 to 20 per cent over the previous schedule and a number of procedures have been added. All of you have received a copy of the schedule for your review. It is the Committee's hope that it meets with your approval.

Respectfully submitted,
Leonard T. Peterson, M.D., *Chairman*
Lawrence A. Pyle, Jr., M.D., *Vice Chairman*
Charles E. Bickham, Jr., M.D.
Edward A. Cafritz, M.D.
Allen S. Cross, M.D.
Urban J. Dowling, M.D.
I. Phillips Frohman, M.D.
Frederick B. Hartsock, M.D.
Lewis A. Klein, M.D.
Maurice J. Kossow, M.D.
Henry S. Robinson, M.D.
Francis Threadgill, M.D.
R. Lomax Wells, M.D.
Ralph D. Whitley, M.D.
Joseph Rogers Young, M.D.
Theodore Wiprud, *Secretary*

REPORT OF THE COMMITTEE ON MEDICAL CARE

In the development of fee schedules there has been little or no effort to relate services to the professional charges made by physicians. Where programs were designed initially to assist persons in the low-income groups the fee schedules established reflected a desire of the profession to serve these persons by accepting fees which were below the usual charges in the community. Likewise, as prepayment medical plans developed physicians agreed to accept a schedule of fees below the usual charges as full compensation for the persons whose incomes were below a stated ceiling. The identical situation has existed for those persons covered under Workmen's Compensation fee schedules.

As medical society-sponsored prepayment plans expanded to cover more and more of the population and included far more than the modest income groups for which the plans were developed, the growth was not always accompanied by a realistic attempt to correlate benefit allowances with usual fees charged by the physician. The higher-income groups now being covered began to assume that the benefits paid by the plan were the equivalent of reasonable or customary fees for professional services. The insurance industry, vigorously entering the field, then adopted and modified existing fee schedules, often offering schedules on the basis that its schedule represented the physician's normal charges or the amount the physician would accept in full payment for his services.

In view of the foregoing, it is reasonable to assume that underwriting organizations, administrators of health and welfare funds, and physicians need to know the relative value of physicians' services if health insurance and similar mechanisms are to succeed in financing, either in full or in part, the cost of medical care. To this end, to prepare a relative value scale, the Committee on Medical Care was directed by the Executive Board of the Medical Society of the District of Columbia. The Board's action was taken in May 1958. In December 1958 the American Medical Association's House of Delegates called upon state medical societies to develop relative value scales for use as deemed advisable.

A relative value scale is not a fee schedule. Basically it attempts to show the relationship in units between professional services. Units, it is true, may be converted into a fee schedule by assigning a monetary value to the basic unit, which is the office visit, but it does not result in a schedule of fees unless the physician or medical society desires to establish the value of a unit in dollars.

Any physician is free to utilize such a unit scale in his own practice if he sees fit to do so. Any monetary unit value may be established by the physician concerned while the relationship between his services remains constant. If a physician wishes he may determine a conversion factor by using one or more of his procedures and dividing his usual charge by the stated number of units. This gives him his coefficient, which may then be applied to other procedures so as to maintain a relationship between his fees.

Of course the Relative Value Scale is not a compulsory mechanism and need not be used except, for example, where an agreement is reached with a Medical Service plan, an insurance company, a health and welfare plan, or a governmental or other agency concerned with the payment of charges to physicians for their services.

The mechanism of development of the present Relative Value Scale for the District of Columbia has been as follows:

1. The Relative Value Scale of California was carefully studied.

2. All Sections or specialty medical societies where no Section existed were contacted and requested to submit suggested unit values within their respective fields.

The Medicare and local Blue Shield schedule of fees were reduced to units and a comparison made between these two and the submitted units from the Sections. Comparison was also made with the California Relative Value Scale.

3. In long and arduous sessions the Committee on Medical Care reviewed each and every item presented in an attempt to bring all procedures into relationship and balance.

4. The completed Relative Value Scale was then forwarded to the Executive Board of the Society for further study and clarification.

The Relative Value Scale submitted to you has no dollar value attached. It should also be pointed out that the Scale is not a fixed document but will require periodic review and adjustment as procedures or technics become obsolete, are added, or refined.

This Committee wishes to express its appreciation to the various Sections and special medical societies for their interest, work and advice in preparing this study. In addition, the Chairman wishes to express his appreciation to the members of the Committee for their work and faithful attendance during the long, difficult and often trying sessions which were necessary to complete the assigned task.

Respectfully submitted,
C. Willard Camalier, Jr., M.D., *Chairman*
Edward W. Nicklas, M.D., *Vice Chairman*
Frank S. Bacon, M.D.
Irving Burka, M.D.
J. Roscoe Creer, M.D.
Gordon W. Daisley, Jr., M.D.
John F. Finnegan, M.D.
Stuart O. Foster, M.D.
Luther W. Gray, M.D.
Edward C. Mazique, M.D.
William D. Oldham, M.D.
Howard P. Parker, M.D.
Jed W. Pearson, Jr., M.D.
W. Robert Perkins, Jr., M.D.
Philip H. Philbin, M.D.
Duane G. Richtmeyer, M.D.
Theodore Wiprud, *Secretary*

INTERIM REPORT OF THE EXECUTIVE BOARD

The reports which you have just heard explain why the Executive Board decided to schedule a Special Business Meeting of the Society this late in June. As must be evident to you, the subject matter which they contain is of such a nature that action on the proposals and recommendations in these reports could not be deferred until fall.

The Board hopes that you will concur in its actions with respect to these reports. You can be assured that approval of them was given only after thoughtful consideration.

Workmen's Compensation Fee Schedule. The completion of this Schedule has been long overdue. Only those who have had a part in its preparation can appreciate the time and effort which have gone into it. Seemingly endless meetings were necessary before an agreement with the insurance companies was reached. In the Board's opinion, the Committee deserves the hearty commendation of the Society for a job well done.

The Schedule was presented to the Board at its meeting on March 23, 1959. Although it could not review all of the items, its examination confirmed the fact that, generally speaking, the Schedule is fair to both physicians and insurance companies.

Every Active and Life member has received a copy of the Schedule and has had an opportunity to review it. It is the Board's hope that it will be adopted as submitted.

Relative Value Scale. It is regrettable that so few physicians in the District of Columbia and elsewhere in the country do not attend meetings of the American Medical Association's House of Delegates. These meetings are open to all physicians. Those who have attended have found them to be interesting and informative where matters of a general nature relating to medicine are concerned.

Recent sessions of the House at Atlantic City brought home to the delegates and others in attendance the imminence of further changes in the practice of medicine and the importance of the profession being prepared to meet them adequately. The delegates recognized that "third parties" in medicine are here to stay, and therefore a meeting of minds is essential.

A constructive approach where the compensation of physicians is concerned, it was agreed, was the so-called Relative Value Scale which has been described by the Committee on Medical Care in its report. As stated by the Committee, the Scale which it submits and which has been circulated among Active and Life members of the Society is tentative. However, it has been prepared with the greatest care and it is the Board's hope that it will be adopted with the understanding that valid inequities will be corrected.

As must be obvious to you, it would be impossible to develop a perfect schedule. It is to be expected that from time to time changes and additions will have to be made. The important thing is that the schedule which has been prepared with the greatest care and thought be adopted subject to changes as indicated.

Although it was hoped that the Relative Value Scale will be helpful to physicians in private practice as to the relative value of their professional services, its primary usefulness at present will be in negotiations with Medical Service, which is committed to broadening its program to meet the demands of subscribers. Conferences with representatives of the Service will begin with the adoption of the Relative Value Scale. The Scale will also prove useful in dealing with insurance companies, labor unions, and other "third parties."

As the Committee has pointed out, its activities with respect to the Scale began long before the AMA's position in regard to it was known. California and Kansas were pioneers in developing a relative value scale. At a meeting of the Association's House of Delegates in Minneapolis in December 1958, the House unanimously approved in principle the study of relative value scales by state medical societies. Further, it offered its assistance to such societies in developing scales to suit their needs.

Your Board can think of no more onerous assignment than was given the Committee on Medical Care when it was requested to prepare a relative value scale. Throughout the months since that time, the Committee has conferred continuously with representatives of every Section of the Society and the various special medical societies composed of our members in fields where there were no Sections. Finally the Scale was completed to the extent that it could be submitted to the Society for approval.

As previously stated, the Committee is well aware that in a real sense the Scale will never be completed. There will be additions and changes for an indefinite period.

The Board is pleased to recommend the adoption of the Relative Value Scale with the understanding that it is not a finished product, that changes will have to be made from time to time, and perhaps modifications will have to be made in the very near future.

Respectfully submitted,
PRESTON A. MCLENDON, M.D., *Chairman*
VICTOR R. ALFARO, M.D.
RALPH M. CAULK, M.D.
W. LEROY DUNN, M.D.
MILTON M. GREENBERG, M.D.
RAYMOND T. HOLDEN, M.D.
WILLIAM ROSS MORRIS, M.D.
EDWARD W. NICKLAS, M.D.
JAMES W. WATTS, M.D.
THEODORE WIPRUD, *Secretary*

THE STAKE OF PRIVATE PRACTICE IN INDUSTRIAL MEDICINE*

LAWRENCE A. PYLE, JR., M.D.

Assistant Medical Director, The Chesapeake and Potomac Telephone Companies

The economics of medical practice has undergone drastic changes in the past 30 years. With the onset of the depression of the thirties, following the crash of our national economy, it became evident to physician and patient alike that adjustments had to be made. At about this time a few forward-looking physicians established medical society-sponsored prepayment plans. These timid beginnings gained impetus with the establishment of Blue Shield in the 1940's. The Blue Cross Plans had been established earlier in 1932. Insurance companies, finding that prepayment plans for medical care could be established at a reasonable cost on a sound actuarial basis, entered the field. Attempts were made by the Congress and the New Deal and Truman Administrations to enact compulsory health legislation.

Probably the most drastic changes in the economics of medical practice have come since the conclusion of World War II. This period has seen the entry of labor unions into medical affairs. Witness the establishment of the United Mine Workers of America Welfare and Retirement Fund and its erection of hospitals and the establishment of panels of physicians to provide total medical care for the miners and their families. Recently in the news have been the statements of David J. McDonald, President of the 1,250,000-member United Steelworkers of America Union. He has avowed that the union's goal is a "completely prepaid, fully insured, medical care system." He is asking for the coöperation of the leaders of organized medicine in effecting this system, but, in my opinion, he will proceed with or without that coöperation.

Other forces which have had their impact on medical practice have been the establishment of such sometimes controversial groups as the Ross-Loos Medical Group and the Kaiser-Permanente Medical Groups, as well as other labor and coöperative medical groups. A local case in point is that of the 9,000 Transit Workers Union members and their arrangements with Group Health Association, Inc. to provide them with medical care.

The newspapers have recently published numerous articles by various writers attempting to analyze rising medical costs. On February 2, Senator Morse of Oregon announced in a speech in the Senate that his District subcommittee is planning a study of medical costs. This study anticipates an investigation of Group Hospitalization, Inc.

This changing economics picture has even been recognized by our own Medical Society of the District of Columbia. In a letter sent to the membership on December 9, 1958 by Dr. James W. Watts, then President of the Society, accompanying the Interim Report of the Committee on Medical Care, he stated, "This problem of medical economics is of vital importance and concerns both patients and the medical profession. If the current trend continues it is probable that within the next few years a great proportion of our professional fees will be handled through prepayment health plans."

All of the publicity given to the various activities mentioned previously has tended to obscure what undoubtedly were the earliest third party plans to provide some type of medical care. These developed first in the mid-nineteenth century, probably as a result of the industrial revolution. These are the medical care programs established by industry for the welfare of its employees. The earliest of these were probably established to provide reliable medical care to isolated workers. With the passage of the first Workmen's Compensation Law in 1911, industrial medicine programs mushroomed.

What are the objectives of an ethical occupational health program? For this I quote from the statement of the "Scope, Objectives, and Functions of Occupational Health Programs"[1] prepared by the Council on Industrial Health of the American Medical Association. These are:

> "1. To protect individuals against health hazards in their work environment.
>
> 2. To insure and facilitate the placement and suitability of individuals according to their physical capacities and their emotional make-up in work which they can reasonably perform with an acceptable degree of efficiency and without endangering their own health and safety or that of their fellow employees, and
>
> 3. To encourage personal health maintenance.
>
> "The achievement of these objectives benefits both em-

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* Read before the Louis Mackall Medical Society in Washington, D. C., March 19, 1959.

ployers and the employees in terms of improved employee health, morale and productivity."

What are the activities necessary to attain these objectives? Again I quote in part from the previously mentioned statement:

> "1. Supervision of the work environment from a health standpoint.
>
> 2. Health examinations.
>
> 3. Medical records. The maintenance of accurate and complete medical records of every individual from the time of his first examination or treatment is a basic requirement. Except when otherwise required by law, the confidential character of these records, including the results of health examinations must be rigidly observed by all members of the occupational health staff, and such records must remain in the exclusive custody and control of the medical personnel.
>
> 4. Medical diagnosis and treatment. Every employee should be encouraged to have a personal physician.
>
> (a) Diagnosis and therapy required by Workmen's Compensation Laws for occupational injury or illness should be directed toward optimum rehabilitation of the employee. The right of the employee to select his attending physician should be maintained. The attending physician may be a member of the occupational health staff or any physician in the community willing and qualified to perform the essential services.
>
> (b) Diagnosis and therapy in case of nonoccupational injury or illness is not a responsibility of an occupational health program, with the limited exceptions noted below.
>
> Emergency cases should be given the attention required to prevent loss of life or limb or to relieve suffering until the patient is placed under the care of a personal physician.
>
> For minor disorders, first aid or palliative treatment may be given if the condition is one for which the individual would not reasonably be expected to seek the attention of a personal physician, or to enable the individual to complete his current work shift before consulting a personal physician.
>
> In occupational health programs, requests for treatment of repetitive personal disorders should be discouraged, and such individuals should be referred to their personal physicians.
>
> (c) The best interests of a patient are served by coöperation and communication between attending physicians and physicians in charge of occupational health programs. In this way prompt restoration of employees to suitable employment can be assured.
>
> 5. Health and safety education."

What is the stake of private practice in industrial or occupational medicine? Obviously, industry can only operate an occupational health program as previously outlined when it can secure satisfactory medical care for its injured employees at a reasonable cost. Failing in this, it must seek other means of providing for its employees. In my opinion it is the responsibility of the industrial physician to seek, and the private practitioner to supply, expert medical care at a reasonable cost. To this end, many states, as has the District of Columbia, have adopted fee schedules for the guidance of physicians treating Workmen's Compensation cases. The District of Columbia fee schedule, which is endorsed by the Medical Society, was drawn up through negotiations between the members of the Society's Committee on Industrial Health and representatives of the insurance carriers. The schedule underwent revision during the last 2 years and has recently been approved by the Medical Society. In general, the fees for the procedures contained in the schedule have been revised upward.

The State of Virginia has no fee schedule. The State of Maryland schedule of fees was suggested to the Workmen's Compensation Commission by the Medical and Chirurgical Faculty of Maryland and adopted by the Commission to be effective July 1, 1956. The Commission points out that any deviation from the fees in this schedule can only be approved by it.

In the past year, my Company paid thousands of dollars to the physicians and for ancillary services in the community for the treatment of injured employees in spite of our outstanding record for safety. In addition, we paid almost a million dollars to our 6,000 employees for time not worked because of illness. This doesn't include payments made to the 3,000 employees of the Virginia and Maryland Companies who work and live in the Metropolitan Washington Area. With these payments included, the total rises to better than a million and a quarter dollars. A considerable portion of this undoubtedly went for medical services. Here again, private practice has a stake in the ethical industrial medical program. For nonwork-connected illness or injury we insist that the employee seek private medical care. This channels patients to doctors in every specialty and in every section of the Metropolitan Area. Our follow-up of the employees assures us, in most instances, that the employee has obtained prompt, competent medical care.

In conclusion, I predict that through continued effort and closer coöperation between the industrial physician and the private practitioner we can improve the medical care of an ill or injured employee at a reasonable cost and promote this type of free practice of medicine as a bulwark against the creeping tide of socialism.

(*Continued on page 476*)

Cancer Page

MALIGNANT MELANOMAS

Malignant melanoma of the skin is the most unpredictable tumor found in man. This is a tumor which may occur on any part of the body and may metastasize to any part of the body. The growth of a melanoma is sometimes accelerated by increased endocrine activity, but even without this stimulus its rate of growth is extremely variable. Patients may live for many years after the removal of a melanoma, or death may occur with alarming rapidity. This bizarre behavior is reflected in the published 5-year survival rates, which vary from 20 to 55 per cent.

Because of the unusual nature of this cancer its prevention becomes of great importance. The only known method of prevention is the removal of moles prior to their malignant transformation.

The lesion usually referred to as a mole is ubiquitous. Careful examination of a large group of normal patients showed that adults have an average of 15 moles (nevi) distributed over the body. There are 3 common types of nevi. In the junctional nevi the nevus cells involve the basal layer of epithelium. Intradermal nevi are so-called because all the nevus cells are in the dermis. The compound nevi are a combination of these 2 types, having nevus cells in both the corium and the basal layer of epithelium. Both the junctional and compound nevi are said to be capable of developing into malignant melanomas. There have been no verified reports of a melanoma arising from an intradermal nevus. Although the junctional and compound nevi are frequently more heavily pigmented than intradermal nevi, it is not possible to distinguish clinically one type from another. It is known, however, that the moles on the palms, the soles and the genitals are junctional or compound.

RESEARCH
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SERVICE

Not all the nevi elsewhere on the body need be removed. Certainly some should be excised for cosmetic reasons. Others which are deeply pigmented or which are located in areas subjected to repeated trauma from articles of clothing should also be removed. Moles which grow, darken, become elevated or ulcerated are probably already malignant.

Malignant melanoma is extremely uncommon in children, but the hormonal activity associated with puberty stimulates the development of melanomas in junctional and compound nevi. Therefore, all suspicious nevi in children should be excised before the age of 10 years.

There is a proved correlation between complexion and the development of melanomas. The incidence is much higher in people who are red-haired or blond or in those with freckles and a sandy complexion.

A knife should be used to excise all moles, and an adequate margin about each lesion should be included. These specimens should all be examined histologically to determine their nature. When a diagnosis of malignant melanoma has been established the involved area should be widely excised if this was not accomplished at the original operation. The regional lymph nodes draining the area should be excised in continuity when they are closely adjacent to the primary site.

The prognosis for patients treated by this method has been shown to be considerably better than for those treated by local excision or desiccation.

Neither irradiation nor chemotherapy is helpful in the treatment of malignant melanoma.

SYMPOSIUM ON EVALUATION OF EARLY DIAGNOSIS OF CANCER

to be presented at the

Annual Scientific Session of the American Cancer Society

Biltmore Hotel, New York City, October 26–27

Program fully approved and recommended by the American Academy of General Practice for 12 hours of Category II Credit for members.

REPORT ON MEETING OF AMA HOUSE OF DELEGATES*

During its recent meeting the House of Delegates had under consideration and made decisions on matters of vital importance to American medicine. The actual number of subjects considered and resolutions introduced were fewer than usual but because of their controversial nature were productive of much discussion both in the reference committee meetings and on the floor of the House.

A highlight of the General Meeting was the appearance of President Dwight D. Eisenhower, who addressed the packed auditorium at the inauguration of Dr. Louis M. Orr, of Orlando, Florida, as the 113th President of the AMA. This was the first time that a President of the United States has addressed an Annual or Clinical Meeting of the AMA.

Dr. E. Vincent Askey of Los Angeles was elected President-elect for the coming year. Dr. Askey has been Speaker of the House for the past 4 years. He was succeeded as Speaker of the House by Dr. Norman A. Welch, of Boston. Dr. Milford O. Rouse, of Dallas, became Vice Speaker and Dr. James S. Kenney, of New York, Vice President.

Your delegates, as instructed, nominated Dr. Hugh H. Hussey to serve a 5-year term on the Board of Trustees and he was unanimously reelected. Dr. R. B. Robins, Camden, Arkansas, and Dr. Percy E. Hopkins, Chicago, were also elected to vacancies on the Board, and places on the various Councils of the Association were duly filled. A complete list of all electees will be published in an early issue of the J.A.M.A.

Commission on Medical Care Plans

The House of Delegates received Part I of the report of the Commission on Medical Care Plans as information only and then acted upon the Commission's recommendations item by item. It adopted 36 of the recommendations without change, but reworded 3 which relate to miscellaneous and unclassified plans. The changed recommendations now read as follows:

"B-4. In an effort to decrease, or at least to prevent an increase, in the overall cost of health care, study should be given to the removal of the requirement of hospital admission as the only condition under which payment of certain benefits will be made.

"B-6. Medical care plans should be encouraged to increase their efforts to provide health education and information concerning the coverage of their subscribers.

"B-16. The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care, and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

In connection with free choice of physician, the House also requested the Board of Trustees to transmit to all constituent medical associations the "far-reaching significance" of Recommendation A-7, which says:

" 'Free choice of physician' is an important factor in the provision of good medical care. In order that the principle of 'free choice of physician' be maintained and be fully implemented, the medical profession should discharge more vigorously its self-imposed responsibility for assuring the competency of physicians' services and their provision at a cost which people can afford."

The House also strongly endorsed Recommendation B-11, which declares that "Those who receive medical care benefits as a result of collective bargaining should have the widest possible choice from among medical care plans for the provision of such care."

Many of the Commission's recommendations urged increased activity by state and county medical societies and the American Medical Association in such fields as continuing study and liaison, closer attention to legal and legislative factors, and the development of guides for the relationship between the medical profession and the various types of third parties. To carry out 3 of the recommendations involving AMA activities, the House also approved a 7-point program which it requested the Board of Trustees to transmit to the Division of Socio-economic Activities for immediate attention.

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* This report is a summary of actions of the House of Delegates which was in session during the 108th Annual Meeting of the American Medical Association in Atlantic City, N. J., June 8–12, 1959.

THREE PRESIDENTS AT AMA CONVENTION

PRESIDENT DWIGHT D. EISENHOWER drew a capacity audience when he addressed members of the AMA at their Convention in Atlantic City. He is shown extending congratulations to DR. LOUIS M. ORR following his inauguration as President of the American Medical Association in colorful ceremonies, June 10. At the left is Dr. Gunnar Gundersen, retiring President of the AMA.

It is recommended that this entire report with the recommendations as adopted be referred to the Medical Society's Committee on Medical Care for its information and guidance.

MEDICINE AND OSTEOPATHY

There are at present in excess of 12,200 licensed osteopaths; 9,274 of these are licensed to or do practice a system of healing without limitation and in certain areas of the country they supply a large portion of care to patients. Also, there are at present 6 colleges of osteopathy.

In view of the changes by the American Osteopathic Association in its objectives, and having thoroughly investigated the matter, and being of the opinion that at the present time "many practitioners of osteopathy conduct their professional activities according to scientific principles" the Judicial Council rendered a special report on the subject of osteopathy.

The House adopted the following policy statement regarding interprofessional relations:

"(A) All voluntary professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are unethical.

"(B) Enactment of medical practice acts requiring all who practice as physicians and surgeons to meet the same qualifications, take the same examinations, and graduate from schools approved by the same agency should be encouraged by the constituent associations.

"(C) It shall not be considered contrary to the Principles of Medical Ethics for doctors of medicine to teach students in an osteopathic college which is in the process of being converted into an approved medical school under the supervision of the AMA Council on Medical Education and Hospitals.

"(D) A liaison committee be appointed by the Board of Trustees of the American Medical Association to meet with representatives of the American Osteopathic Association, if mutually agreeable, to consider problems of common concern including interprofessional relationships on a national level."

In another action concerning osteopathy, the House recommended that the American Medical Association's representatives on the Joint Commission on Accreditation of Hospitals suggest to the Joint Commission that they inspect upon request and consider for accreditation without prejudice those hospitals required by law to admit osteopathic physicians to their staff.

PREPARATION FOR GENERAL PRACTICE

The House approved with one minor change and commended the final report of the Committee on Preparation for General Practice, which proposes a new 2-year internship program for medical school graduates planning to become family physicians. The Committee on Preparation for General Practice included representatives from the AMA Council on Medical Education and Hospitals, the American Academy of General Practice, and the Association of American Medical Colleges.

The suggested program would include a basic minimum of 18 months' hospital training in the diagnostic, therapeutic, psychiatric, preventive and rehabilitative aspects of medicine and pediatrics in a very broad sense, including care of the newborn. A physician then could elect to spend the remaining 6 months for additional training in other segments of the program. The Committee stated, however, that participants who plan to practice obstetrics would be expected to spend at least 4 months of the elective period in obstetrical training.

The report declared that "the graduate program of 2 years in preparation for family practice should be planned and implemented as a unified whole" with a maximum continuity of assignment in specific services. The program also calls for adequate experience in outpatient care and emergency room service.

Social Security

In considering 5 resolutions on the subject of compulsory Social Security coverage for self-employed physicians, the House disapproved of 4 and adopted 1 reaffirming its opposition to the compulsory inclusion of physicians. In so doing, the delegates expressed concern over the possible effects that a change of policy might have on the Association's entire legislative program, particularly with respect to the Forand Bill.

The House also recognized "the apparent growing demand by physicians for economic security" and requested the Board of Trustees to investigate the possibilities of developing group insurance and retirement plans which could be made available to Association members. It accepted a reference committee suggestion "that the American Medical Association continue and expand its educational program to inform its members of the economic, social and moral advantages of economic security obtained within the framework of our free enterprise system rather than through the mechanisms of governmental Social Security."

Your delegates, realizing their position on this matter is the same as the Society's, which is in accordance with the recent poll on the subject, wish to point out that while support for compulsory Social Security for physicians is increasing that the majority of physicians are not in favor of it at this time. An interesting fact developed in the discussion of this matter was that of 242,625 doctors of medicine in this country less than 4 per cent are retired, and that inasmuch as physicians seldom retire at age 65, most would not be eligible for Social Security benefits until age 72 years. Meanwhile, however, they would continue to pay Social Security taxes.

Miscellaneous Actions

Among a number of other matters, the House urged all physicians to participate more fully in community activities and socioeconomic matters in their own areas but agreed that no change should be made in the objectives of the Association as stated in Article II of its Constitution.

It approved in principle the aims and objectives of the President's Council on Youth Fitness and the Citizens' Advisory Committee on the Fitness of American Youth.

It approved the recommendation of the Board of Trustees whereby as a benefit of dues-paying membership each member will receive a subscription to *Today's Health*, the Association's publication for the public, and urged that members make it available to their patients. In addition each dues-paying member will receive the AMA specialty journal of his choice.

It requested the Board of Trustees to study the problems and possibilities of establishing an AMA-sponsored medical scholarship and/or loan program and urged every AMA member to give a substantial gift to the medical schools through the AMEF.

The House reaffirmed its full support of the Educational Council for Foreign Medical Graduates and endorsed the purposes outlined in the initial report of the Medical Disciplinary Committee.

The recommendation of the Board of Trustees that the 1962 Annual Meeting be held in Chicago was accepted.

Respectfully submitted,
Raymond T. Holden, M.D., *Delegate*
Ralph M. Caulk, M.D., *Delegate*
Theodore Wiprud, *Secretary*

On the Lighter Side

If you have the urge to cool off in this hot August weather here is a cold weather tale designed to lower your temperature by 10 degrees—just for the reading of it. And if your imagination can put you aboard you will shiver in your boots!

It all happened one bitingly cold day in November. The sky was overcast with early winter gray. The cutting wind over the water numbed fingers and toes to unusual stiffness. And the water surrounding The Hel-Kel was beginning to ice her fast to her slip. The skipper, Dr. James C. Waters, and his able-bodied seamen companions—Dr. Don Leeper and Dr. Don Mitchell—were preparing The Hel-Kel to depart from Fairhaven to her winter berth at Colonial Beach, Va. Dr. Waters was a little late getting his boat out of summer berth because as long as there was a stray Spot or Rock available in Herring Bay Dr. Waters meant to hook it. However, reluctantly, Skipper Waters decided that he must move his boat now if it was to be moved at all. Therefore, early one cold, frosty November morning the three water companions revved up the 2 engines of The Hel-Kel and headed out into the chilly waters of the Bay. Barely ½ mile out the tricky depths of the Chesapeake shoreline trapped The Hel-Kel in the ooze of the shallow muddy bottom. This unfortunate state of affairs was not catastrophic because the 30-foot Egg Harbor craft's two engines were powerful enough to get her loose from the mud by tricky maneuvering; however, the rock and roll of the boat in its shuddering and straining to lift its bottom out of the sucking slime knocked over a lighted electric heater in the cabin. This accident produced a fire in the cushions of the bunks.

When Dr. Waters smelled the burning upholstery and saw the smoke pouring from the ship's hold he rushed into the burning cabin and heaved the brand new heater overboard through the porthole, then smothered the fire.

Now the sleek ship was free of the mud, and the fire in her innards was out. The three sailors headed The Hel-Kel out into the freezing wind of a misty, foggy Bay.

The boat was hardly out into deep water when a defective water pump caused one engine to overheat and conk out. Therefore Skipper Waters had to limp into Solomons Island and lay up 3 costly hours for repairs.

On a cold, gray November day, dusk arrives quickly and when The Hel-Kel was ready to sail the dark of the evening was beginning to thickly enshroud the cold, chilling water.

Landmarks at night, on a blacked out starless Chesapeake Bay, are grotesque and unrecognizable, and the 3 seasoned watermen soon found themselves lost. Steering by instinct and compass Skipper Waters headed toward what he thought was the mouth of the Potomac River and Colonial Beach, but when tall black poles loomed on starboard and portside simultaneously and scraped the sides of The Hel-Kel he knew he was over the commercial fishing nets with the possibility of fouling both propellers. Fortunately, the water was deep enough for The Hel-Kel to pass over the nets without difficulty, and Skipper Waters headed for the channel.

After 16 frozen, unhappy hours The Hel-Kel silently nosed into its berth at Colonial Beach. Three tired and nerve-frazzled sailors were mighty relieved to hear the splash of the anchor dropping into the quiet water after a hazardous voyage that should have taken not more than 7 hours to complete.

Probably the happiest 3 were—not the sailors—but the sailors' wives, Mrs. Waters, Mrs. Leeper and Mrs. Mitchell, who had been keeping a vigil on the beach waiting for their ship to come home.

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New boat owners are Dr. Alec and Helen Preece, who have announced the acquisition of a 22-foot Pelican that sleeps 2, and is powered by a 135-horse power Gray Marine engine. So far Helen and Alec haven't decided on a name for their new baby for Bay fishing.

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CHUCKLE NOTE: A smart husband is a man who thinks twice before saying nothing.

J. EARL KADAN, M.D.

ANNUAL REPORT ON ADMINISTRATIVE SERVICES OF MEDICAL SERVICE*

Participating Physicians. At no time in the history of Medical Service has the administrative activity of the Plan been so pronounced. The participation of a record influx of physicians, the increase in total enrollment, and the new areas of medical care expense being prepaid by a record number of subscribers who have transferred from the Surgical to the Surgical-Medical Contract, all have contributed to an accumulation of activity and claims payment procedures which have taxed our staff, personnel and facilities to the utmost.

Physician participation in the activities of Medical Service is the key to the ability of Medical Service to meet the public demand. In addition to the time and service devoted to the program by members of the Board of Trustees, who establish policy for the guidance of Medical Service, physicians are constantly contributing their time and thought to the medical problems affecting the program by their individual interest and by their service on numerous committees. Currently, 37 physicians on 4 committees and the Board of Trustees contribute many hours and much thought to the development of Medical Service as a community service. Over the last 10 years literally hundreds of the leading physicians of Washington have given this special service.

Physicians working actively in the development and operation of Medical Service do so in the interests of hundreds of physicians who participate in the program by making their services available to subscribers on a prepayment basis. Obviously, if there were not a representative number of physicians participating in Medical Service to give assurance that the unique benefits which Medical Service provides to the public will be fulfilled, public confidence in a doctor-sponsored program would decline. It is gratifying, therefore, to note that the number of Participating Physicians continues to increase as Medical Service expands the scope of its benefits into new medical fields and new physicians establish practice in the Washington area. At the present time there are 2,302 doctors of medicine and practitioners of the healing arts who are participating in Medical Service of D. C. This represents a net gain of 155 physicians participating in the program during the past 12 months, and there are relatively few physicians who provide the services covered under our contracts who do not participate in the program.

Enrollment. The most significant measure of the impact of a Blue Shield program upon the practice of any physician lies in the number of his patients who subscribe to the program. By this measure, Medical Service of D. C. has a more profound impact upon your practice than any Blue Shield program in existence. The enrollment report for all Blue Shield Plans for the year 1958 shows Medical Service of the District of Columbia leading all other Blue Shield Plans with 64.70 per cent of the population enrolled. While a segment of the Washington area is not included in the population figure toward which our subscription figure is applied in order to obtain this percentage figure, the distinction of being a leading Blue Shield Plan in the percentage of population enrolled is significant.

The position which Medical Service holds nationally with respect to the percentage of patients who are enrolled in a Blue Shield Plan may be contrasted with the Blue Shield acceptance in such states as California, Georgia and South Carolina, where Blue Shield Plans have enrolled less than 10 per cent of the potential patients in their states. Such programs have a minor impact upon the practice of physicians who participate in them. The greater the percentage of the population enrolled in a Blue Shield Plan, the greater the number of prepaid patients who might otherwise pay little or nothing at all toward the cost of the services they receive.

At the end of 1958, there were 701,988 persons enrolled in Medical Service, a net gain of 51,375 participants for the year. Of these, 309,191 were enrolled under the Surgical-Medical Contract and were thus eligible for a number of services which are not provided under the old Surgical Contract; 23,520 of these participants were protected under Major Medical coverage. Perhaps the most significant development revealed by these figures is the transfer of subscribers from the limited coverage of the Surgical Contract to the wide scope of benefits provided under the Surgical-Medical Contract. An increase in enrollment under the Surgical-Medical Contract of 138,448 participants in 1958 represents that many additional persons in the community who have contributed to the financing of diagnostic X-ray and laboratory services, radiation therapy, EKG and other related services outside of the hospital, and medical care visits in the hospital. The provision of benefits for these physician-services to large numbers of new subscribers has had a measurable effect upon the practice of many physicians who have had little practical contact with Medical Service in the past. As Medical Service continues to expand, both in enrollment and in services for which benefits are provided, the effect upon the physician economy will, of course, become more pronounced. It is encouraging to recognize that a program for the prepayment of medical care which was originated and has been perpetuated by physicians, and which is responsive to physicians who participate actively in it, is by far the predominant program for the prepayment of medical care in this area.

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* Presented at the Annual Meeting of Participating Physicians of Medical Service of the District of Columbia, April 29, 1959.

While the recent, unusual expansion of claims-processing operations has been severe, it is apparent that the future will present much greater challenges in the development of methods for processing payments to Participating Physicians. Legislation which is now contemplated for the provision of health benefits to Federal employees could double the enrollment of Federal employees in Medical Service of D. C. The effect of such a large and sudden increase in enrollment would be expressed immediately in all areas of administration, from billing the subscriber to paying the physician. Medical Service has always found it possible to absorb an increase in administrative functions without using any additional portion of the subscriber's dollar for administrative expense, and we feel confident that we will continue to do so in the future when the need arises.

There has been some concern about the loss of a large group to a closed-panel program, and while the increase in enrollment in a program which does not provide for a free choice of physician is cause for both physician and public concern, it should be pointed out that the enrollment of a single group last January almost makes up for the number of participants lost to the closed-panel program. A group with nearly 8,000 participants was enrolled under the Comprehensive Contract in January. This month Comprehensive coverage began for 3,700 participants in another single group. In both of these groups, the broad coverage of the Surgical-Medical Contract will be in effect, whereas the group that was lost to the closed-panel program was enrolled under the limited Surgical Contract.

Claims. During 1958 our Claims Department processed 278,239 claims, or approximately 1,100 every working day, a 35 per cent increase in the claims load over the previous year. This increase in claims experience results principally from the provision of benefits for services rendered outside the hospital under the Surgical-Medical Contract, and the fact that participation in the prepayment mechanism encourages the patient to seek additional treatment. In 1958, the number of claims paid for services rendered outside the hospital nearly doubled in comparision with the number paid during the preceding year, and the incidence of claims paid for services rendered outside the hospital continues to mount as more and more subscribers are enrolled or change over to the Surgical-Medical Contract. A study of a single voucher payment to physicians last month points out the trend to payment for procedures rendered outside the hospital. Payments made for claims received in a single week showed that of 2,043 surgical procedures, only 1,302 were rendered to hospital inpatients. Two hundred and seven were rendered in the outpatient department of the hospital, and 534 in the doctor's office. Similarly, of 1,818 claims for laboratory services, 1,143 were submitted for hospital inpatients, 203 for hospital outpatients, and 472 for office procedures. In X-ray, of 1,339 claims received, 395 were for hospital inpatients, 373 for hospital outpatients, and 571 for office patients. EKGs were almost evenly divided, 72 having been submitted for hospital inpatients and 71 for office procedures. These findings illustrate the administrative problems which result from broadening the scope of services covered by Medical Service of D. C. from the original program, which provided benefits only when the patient was hospitalized, to the present coverage by which benefits are provided in 1 week for 1,648 claims for procedures performed in the office.

All Blue Shield Plans are anxious to keep their operating costs at a minimum figure in order to reserve the subscriber's dollar for the payment of claims. The operating expense of all reporting Blue Shield Plans amounted to 10.23 per cent of earned subscription income in 1958, which is well below the amount retained by most insurance companies for operating costs. Despite the increase in the incidence of claims and the necessary additional processing functions, Medical Service kept its operating expense to 8.6 per cent of earned subscription income in 1958, a figure which is substantially below the average for Blue Shield Plans and a reduction in the figure for this same item in 1957. There are no frills in the operation of Medical Service. The Board of Trustees receives no compensation for its services; physicians serving on committees provide their time and advice without remuneration; there are no commissions paid to salesmen or Plan representatives; and there are no dividends to be paid out to stockholders. Wherever possible, the organization's income is reserved for the payment of claims.

Medical Service contracts with Group Hospitalization to perform as its agent in the administration of its prepayment medical care program, and once again we have reason to take satisfaction in the manner in which the administrative details of a growing, changing, complex operation have been performed. I believe that the record of the administration in 1958 has been exceptional, and I assure you that it will continue to be so in 1959.

George B. McGovern
Executive Vice President

AMA MEETING AT ATLANTIC CITY

Although official figures are not available, it is estimated that some 15,000 physicians were in attendance at the 108th Annual Meeting of the American Medical Association at Atlantic City in June.

Much enthusiasm was generated by the presence of President Eisenhower on Tuesday, June 9th. The Chief Executive spoke to a jam-packed ballroom in Convention Hall at the Inauguration Ceremony of the incoming President of the AMA, Dr. Louis M. Orr of Orlando, Fla. Thousands of persons outside on the Boardwalk were unable to gain admission.

The President's remarks were punctuated by frequent and often prolonged applause. His review of milestones in medical progress was familiar to an audience composed largely of physicians and their wives. Nevertheless, they were appreciative of the recognition given the contributions of medical science. The President did not let the opportunity pass to discuss balancing the budget as a countermeasure against inflation. He said:

"We must live within our means if we, as a people, are to prosper. Unless both responsible officials and all our citizens begin to insist that we make significant annual payments against our burdensome national debt, we will weaken the credit of the nation.

"The medical profession, as much as any other, has a vital interest in preventing inflation. Certainly it wants to provide its services for a fee within range of what people can reasonably pay.

"If the time ever comes when large numbers of our citizens turn primarily to the government for assistance in what ought to remain a private arrangement between doctor and patient, then we shall all have suffered a great loss.

"The cost of inflation is not paid in dollars alone, but in increasingly stagnated progress, lost opportunities, and eventually, if unchecked, in lost freedoms for the doctor and patient."

Some physicians disapproved the President's comments on physicians' charges. However, this was not evident among those present to hear him. They applauded his comments on the budget and inflation with enthusiasm.

The program which preceded President Eisenhower's address was brief. Dr. Gunnar Gundersen, retiring President of the Association, related in his usual direct and impressive fashion his experiences in office and his hopes for the future of medicine. Dr. Orr, who was inaugurated the 113th President of the Association, made an unusually eloquent plea for courage if "individual freedom, individual rights and individual responsibilities" are to be safeguarded.

At the opening session of the House of Delegates, Dr. Michael E. De Bakey of Houston, Texas, Chairman of the Department of Surgery at Baylor University College of Medicine, was presented with the 1959 Distinguished Service Award for "his outstanding contributions in the field of cardiovascular surgery."

Dr. Raymond T. Holden, the Society's Senior Delegate to the AMA, was appointed Chairman of the important Reference Committee on Reports of the Board of Trustees. Also representing the Society in the House was its newest Delegate, Dr. Ralph M. Caulk. Dr. Herbert S. Gates, Alternate Delegate, and the Secretary of the Society attended all sessions of the House and meetings of the various Reference Committees.

Elections to offices in the Association were held at the last session of the House on Thursday, June 11th. Dr. E. Vincent Askey of Los Angeles, since 1955 able Speaker of the House, was named President-elect, defeating Dr. George F. Lull, former Secretary and General Manager of the AMA, for the office. Dr. Askey will succeed Dr. Orr as President at the Association's Annual Meeting in Miami Beach in June 1960.

Dr. Askey received his medical degree from the University of Pennsylvania in 1921. He served his internship and residency at the Hospital of the Protestant Episcopal Church and Kensington Hospital for Women in Philadelphia. Upon completion of his training, he moved to Los Angeles where he confined his practice to general surgery.

In 1948 Dr. Askey was certified by the American Board of Surgery. Later he became a fellow of the American College of Surgeons. He is on the surgical staff of St. Vincent's Hospital in Los Angeles.

In 1943 he was elected President of the Los Angeles County Medical Society and in 1948 President of the California State Medical Association. Active in civic affairs, he served as President of the Los Angeles City Board of Education.

Others elected to office in the AMA were Dr. James Stanley Kenney of New York City, Vice President; Dr. Norman A. Welch of Boston, Speaker of the House; and Dr. Milford O. Rouse of Dallas, Texas, Vice Speaker.

Of especial interest to Washington physicians was the election of Dr. Hugh H. Hussey, Jr. for another five-year term on the Board of Trustees. He was nominated by Dr. Holden, who addressed the House as follows:

"Mr. Speaker, Fellow Delegates:

"Three years ago I stood before you to nominate Hugh Hussey as a candidate for the Board of Trustees.

"Then you were promised that he had much to offer American medicine and this Association. Time has proved that promise an understatement, and his service on the Board has been so outstanding and is so well known to you that it would be presumptuous of me to expand on it here. The esteem in which he is held was wonderfully expressed by the response to the letter which was sent to each of you informing you that he had agreed to serve again.

E. VINCENT ASKEY, M.D.

President-elect of AMA, 1959–60

"Therefore, without further delay, I am exceedingly honored as an individual and as a delegate representing the Medical Society of the District of Columbia to again nominate Hugh H. Hussey of the District of Columbia to become a member of the Board of Trustees, this time to succeed himself."

Dr. Hussey was unanimously reëlected for another term.

Dr. R. B. Robins of Camden, Ark. was also reelected to the Board. A first-time electee was Dr. Percy E. Hopkins of Chicago.

Future AMA meetings have been scheduled as follows: Annual Meetings—Miami Beach, June 13–

17, 1960; New York, June 26–30, 1961; Clinical Meetings—Dallas, Texas, December 1–4, 1959; District of Columbia, November 29–December 2, 1960; Denver, November 28–December 1, 1961; and Los Angeles, November 26–30, 1962.

The AMA's Art Association held its 22nd Annual Art Exhibition at Atlantic City, June 8–12. Dr. Milton L. Goldman was awarded a Gold Medal (1st Prize) for his water color entry, and a Silver Medal (2nd Prize) for his oil landscape entry.

The Woman's Auxiliary to the American Medical Association held its 36th Annual Convention at Haddon Hall. Although no attendance figures were available, it was estimated some 2,500 physicians' wives would attend. Mrs. E. Arthur Underwood of Vancouver, Washington, President of the Auxiliary, presided. Programs were presented daily. The Auxiliary to the District Medical Society was represented by Mrs. M. Noel Stow, Mrs. G. Louis Weller and Mrs. Richard Dunkley.

DR. GOLDMAN AND HIS "GOLD MEDAL" PAINTING

Dr. and Mrs. Milton L. Goldman are viewing his prize-winning water color, "Aftermath," for which he was awarded a gold medal, first prize, at the 22nd Annual Exhibit of the American Physicians' Art Association, held during the AMA Convention in Atlantic City, N. J., June 8–12.

CORRESPONDENCE

Washington, D.C., June 22, 1959

To Mr. Wiprud:

Our private duty nurses who are members of the Professional Nurses' Official Registry of the Graduate Nurses' Association are concerned about the delay they have been encountering in the collection of their fees for services rendered and subsequent hardship as this is their only source of income.

Too often a patient is either unaware that private care is not included in his hospital costs, or he has not been informed that private nurses have been requested to care for him.

The nurses engaged in the field of private practice nursing feel that the D. C. Medical Society can be of tremendous assistance to them in solving this problem.

They would greatly appreciate continued effort on the part of the attending physician to interpret the cost to the patient who requests the services of a private duty nurse, or who is advised by the doctor that private nursing care is necessary.

It is the opinion of the members of our Section that it would be very helpful if this matter could be brought to the attention of your members through the Medical Annals or at one of your meetings.

Any suggestions and assistance you may be able to offer will indeed be deeply appreciated by the Section.

Sincerely,
Edith M. Beattie, R.N.
Executive Secretary, Graduate Nurses' Association

News and Personals

MEETINGS

Two courses in postgraduate medical education will be given at **Sibley Memorial Hospital** this fall. Category I credit for both is pending with the American Academy of General Practice.

One course is a postgraduate review of medicine which will cover certain aspects of carbohydrate and protein metabolism, hematology, renal disease, pulmonary disease, and ophthalmologic manifestations of systemic disease. Emphasis will be on recent advances in pathophysiology, as well as on newer concepts of diagnosis and treatment. An unusual aspect of the course will be the utilization of television technics for presenting some of the microscopic and ophthalmologic material. The class will meet on consecutive Wednesday evenings at 8:15 p.m., beginning on September 23, 1959.

Conducting the course will be: Dr. Sol Katz, Clinical Professor of Medicine at Georgetown University School of Medicine and Chief of Medical Service at Mount Alto Veterans Administration Hospital; Dr. Samuel Bessman, Associate Professor of Medicine at the University of Maryland School of Medicine; Dr. William M. Hart, Chairman of the Department of Ophthalmology at Sibley Memorial Hospital, and President of the Eye Research Foundation; Dr. Leonard B. Berman, Assistant Professor of Medicine at Georgetown University School of Medicine; and Dr. Arnold Lear, Consultant in Hematology at Sibley Memorial Hospital and former Fellow in Hematology at The Thorndike Laboratories at Boston City Hospital.

The other course is in biostatistics and will be under the co-sponsorship of The American University and will carry academic postgraduate credit. It is designed to acquaint physicians with statistical methods in use in biologic studies, with particular reference to utilization in research in medical fields, and will run on consecutive Monday afternoons from 3:00 to 5:20 p.m., beginning September 21. The instructor will be David King, Ph.D., Assistant Professor of Psychology, Mathematics, and Statistics at The American University.

Further information may be secured from the office of the Director of Medical Education, Sibley Memorial Hospital, Metropolitan 8-4412.

The Medical Alumni Association of Sibley Memorial Hospital announces the **Jacob Kotz Memorial Lecture,** to be given at Sibley Memorial Hospital on October 14, 1959. Dr. J. Robert Willson, Professor of Obstetrics and Gynecology at Temple University, Philadelphia, Pa., will lecture on "Edema during Pregnancy: Its Significance and Management."

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia held its regular monthly meeting on June 22, 1959. Dr. Preston A. McLendon presided. The Board was favorably disposed to the proposal that an estimate of the cost of installing air-conditioning in the Society's Auditorium and Library be obtained and referred it to the House Committee for implementation.

The Board received the report of the Society's Delegates to the American Medical Association on the proceedings of the House of Delegates at Atlantic City, June 8-11. The Board expressed its deep appreciation for the excellent work done by the Delegates.

The resignation of Dr. Kenneth L. McCoy from the Committee on Blood was accepted.

Dr. Herbert P. Ramsey was chosen as the recipient of the 1959 Certificate for Meritorious Service.

The names of Drs. Frank S. Pellegrini and William P. Herbst, Sr. were suggested to the Health and Welfare Council for the chairmanship of its Health Conference.

Confirmed appointments to the following committees on arrangements for the 1960 AMA Clinical Session to be held in Washington, D. C.: Program Committee, Dr. William S. McCune; Color Television Committee, Drs. S. N. Albert and James G. Sites.

The following were appointed by the President to the Classification Committee and confirmed by the Board: Dr. William E. Bageant (Anesthesiology) and Dr. Roy G. Klepser (Thoracic Surgery).

Voted that the following names submitted by the President be proposed for appointment to the Advisory Committee to The National Foundation: Dr. Robert H. Groh (Psychiatry); Dr. James E. Chapman (Internal Medicine); Dr. William T. Spence (Neurosurgery); and Dr. Thomas F. Collins (General Practice).

The Secretary submitted the results of a questionnaire sent Active and Life members of the Society to determine their wishes regarding "MD" District license plates. He reported that the total number of questionnaires returned was 678. Of this number, the majority—511 D. C. residents—favored "MD" plates being issued to physicians. The Board directed that Mr. George England, Director of the Department of Vehicles and Traffic, be informed of the result.

Drs. McLendon and Harold M. Hobart were proposed to Dr. Daniel L. Finucane, the District's Director of Public Health, as the Society's representatives to the Conference on School Health at the University of North Carolina on September 9, 10 and 11, 1959.

In a communication to the Board, Dr. Wallace M. Yater, Chairman of the Classification Committee, strongly recommended that each year there be appointed a representative of each Section of the Society to pass upon the qualifications of applicants for the specialty of the Section. He proposed that the Secretary of the Society contact the Chairman of each Section requesting that he nominate the member of the Section to serve on the Classification Committee. Dr. Yater explained that Sections are in the best position to determine the qualifications of applicants and should be actively concerned in the matter of classification of members of the Society. The Board referred this recommendation to the Committee on Constitution and By-laws.

Finally, the Board voted that the contract which the Society entered into two years ago with the Office of Dependents' Medical Care (Medicare) be renewed for the period, August 1, 1959 to July 31, 1960.

The **Silver Anniversary Meeting of the American College of Chest Physicians** was held at the Ambassador Hotel, Atlantic City, June 3–7. More than 1,800 physicians and guests attended. Honorary fellowships were awarded to Dr. Harold S. Diehl, New York City, and Mr. Murray Kornfeld, Founder and Executive Director of the College. It was the first time that a College Medal had been awarded to a lay person.

Dr. Edgar W. Davis was reëlected Governor of the College for the District of Columbia. Certificates of fellowship were presented to the following Active members of the Society: Drs. Irving Brotman, Thomas W. Mattingly, John J. Nolan and Harold M. Silver. Theodore Wiprud, Secretary of the District Medical Society, was a guest of the College at its Annual President's Banquet.

The College honored the fathers and sons of the College who have an active interest in their specialty, diseases of the chest. Dr. J. Winthrop Peabody, Sr. and his son, Dr. J. Winthrop Peabody, Jr., were among the 64 physicians in the reception line.

Dr. Peabody, Sr., a member of the Founders' Group and former President of the College of Chest Physicians, currently Chairman of the Council on Postgraduate Medical Education, was awarded a Master's Degree at the convocation and presided as a discussant at the fireside conference. Dr. Peabody is a member of the House of Delegates of the AMA. His son, Dr. Peabody, Jr., is the President-elect of the District of Columbia Trudeau Society.

The Research Foundation of Children's Hospital has been awarded a grant of $14,000 by the National Science Foundation for the support of basic research in "Kinetics and Thermodynamics of Ribonuclease Action." The two-year grant became effective June 19, 1959. The research will be conducted under the direction of John C. Houck, Ph.D., Chief of the Biochemistry Section of the Children's Hospital Research Foundation.

Brig. Gen. Thomas J. Hartford, Army Medical Corps, has been appointed Deputy Surgeon General of the United States Army Medical Service in Washington.

In his new position, General Hartford will coördinate Army Medical Service programs and assist the Surgeon General in supervising the Service's activities.

Prior to assuming his present duties, General Hartford was Commanding General of Madigan Army Hospital, Tacoma, Washington. Previously, he was Deputy Commanding General of Walter Reed Army Medical Center, Washington, D. C., from July 1955 to April 1958.

General Hartford is a graduate of the University of Nebraska School of Medicine. He is also a graduate of the National War College, Command and General Staff School, the Army Medical and Medical Field Service Schools, and the Infantry School.

During World War II, the General was Deputy Surgeon, European Theater; Deputy Surgeon of the 12th Army Medical Group; Commanding Officer of the 808th Hospital Center, and Surgeon of the Third U. S. Army.

Holder of many decorations and medals, the General has received the Legion of Merit, Bronze Star with Oak Leaf Cluster, and the Commendation Ribbon with Metal Pendant. He also received the Legion of Honor and the *Croix de Guerre.*

He is a member of the American Medical Association, American College of Hospital Administrators, and the American Hospital Association.

Dr. James L. Goddard has been appointed Civil Air Surgeon of the Federal Aviation Agency by Administrator Elwood R. Quesada, who made him responsible for the physical and mental standards of the Nation's pilots, effective July 12.

The post has been filled on an acting basis since creation of the FAA in January by Dr. John E. Smith, who was named chief of the agency's Research Requirements Division.

Dr. Goddard is a graduate of George Washington University School of Medicine and received his Master of Public Health degree *magna cum laude* from Harvard University.

He served with the Army Medical Corps during World War II and has been in public health work since 1951, coming to the Public Health Service from private practice in Kalida, Ohio.

His new assignment is concerned with the physical and mental fitness not only of pilots but of the Nation's air traffic controllers. He is to develop and recommend the FAA's medical standards, conduct aviation medical research into the physiological and psychological limitation of the human body that may affect man in flight.

Two grants for research, totaling $289,756, have been awarded **Georgetown University** by the John A. Hartford Foundation of New York. A three-year grant of $158,426 was made for kidney research and another for $131,330 for blood flow research.

Dr. George E. Schreiner, Associate Professor of Medicine at Georgetown University Medical School, stated that the funds for kidney research will be used to expand the laboratory organization and scope of present studies, to train professional personnel, and to provide specialized care for referred patients with kidney ailments.

Dr. John C. Rose of the University's Physiology Department stated that the amount granted for research in blood will be used to develop blood flowmeter systems to obtain direct and instantaneous measurement of blood flow in various regions of the body.

Dr. William L. Howell was elected **President of the Washington Heart Association** at the meeting of the Association held on June 29, 1959. Dr. Howell succeeds Dr. Andrew G. Prandoni, who served as President for two terms. Dr. Howell received his degree in medicine from Baylor University and was a Fellow in Medicine at the Mayo Clinic in Rochester, Minn., receiving an M. S. from the University of Minnesota in 1933. He served in the U. S. Army during World War II in New Guinea and the Philippines, also at Walter Reed Army Hospital, leaving the Army with the rank of Lt. Colonel. He began his Washington practice in 1946 and was an organizing member of the Washington Clinic in 1955. He is on the staff of Washington Hospital Center and is Assistant Clinical Professor of Medicine at Georgetown University School of Medicine.

Among other officers elected were Dr. John W. Latimer, Jr., Vice President, and Drs. Howard C. Pierpont and Joseph J. Wallace, members of the

Board of Directors for three-year terms. Dr. Frank S. Horvath was elected to permanent honorary membership "for distinguished service in the field of cardiovascular diseases."

The Section on Otolaryngology at its meeting on May 12, 1959 elected the following officers for the ensuing year: Drs. Morris E. Krucoff, *President*; Max J. Fischer, *Vice President*; Adrian J. Delaney, *Secretary*; and Robert D. Ralph, *Treasurer.*

The Washington Psychoanalytic Society at a meeting on May 22, 1959 elected the following officers for two-year terms: Drs. Stanley L. Olinick, *President*; Hewitt I. Varney, *Vice President*; Robert C. Burnham, *Secretary*; and Daniel S. Jaffe, *Treasurer.*

The Washington Psychoanalytic Institute at a meeting on March 18, 1959 elected the following officers for three-year terms: Drs. Edith Weigert, *Director Emeritus*; Robert A. Cohen, *Director*; Alexander Halperin, *Chairman, Education Committee*; and Rex E. Buxton, *Secretary, Education Committee.*

New air-conditioned facilities for animals have been provided by George Washington University atop the Warwick Memorial. The quarters are insulated, cooled and heated and were added to the hospital's facilities for animal care already provided.

Dean John Parks stated that the safety and comfort of animals used for gaining fundamental medical knowledge is paramount in the investigation of disease.

"The need for good housing for research animals has long been shared by members of coöperating animal welfare organizations," Dean Parks said. "An example of coöperation among Washington medical schools and animal welfare effort is WARDS (Welfare of Animals used for Research in Drugs and Surgery). Formed in 1954, it has worked with the George Washington University School of Medicine in planning the new animal quarters."

Groundbreaking ceremonies for the new building of the **National Library of Medicine** were held at the National Institutes of Health on June 12, 1959. The Honorable Arthur S. Flemming, Secretary of Health, Education and Welfare, gave the principal address, and Senator Lister Hill, co-author with Senator John F. Kennedy of the National Library of Medicine Act of 1956 which authorized construction of the new building, turned over the first spade of earth.

Presiding at the ceremony was Dr. Champ Lyons, Professor of Surgery of the Medical College of Alabama and Chairman of the Board of Regents of the National Library of Medicine. Surgeon General Leroy E. Burney of the Public Health Service, Dr. I. S. Ravdin of Philadelphia, and Dr. Worth B. Daniels of Washington, former Chairmen of the Board, participated in the ceremony.

Other speakers were Senator Gordon Allott of Colorado and Representatives John E. Fogarty of Rhode Island and Melvin R. Laird of Wisconsin.

The ceremony marked the beginning of work on the new $7 million library building which is scheduled to be completed in 1961. The building will house the greatest collection of medical literature in the world, now occupying an outmoded structure at 7th and Independence Ave., S.W., in Washington.

The National Library of Medicine is responsible for the principal bibliographical publications in the field of medicine published in the United States. It publishes an annual catalog of medical books and a monthly index to world-wide periodical literature of medicine.

The Lions Club of the Washington Area dedicated a building on the grounds of the Washington Hospital Center on June 21, 1959 as their **Eye Bank and Research Foundation.** This centralizes eye bank operations and provides a center for research.

The building in which the Foundation's quarters will be housed is an old guardhouse standing at the Michigan Avenue gate that was unused by the hospital. It contains an office, a room for the apparatus that dehydrates and preserves eye parts, a laboratory, and a cage room for keeping experimental animals.

The bank will continue to be staffed by an executive secretary and a part-time technician paid by the Lions, another technician paid by the James Tissue Foundation, and two doctors who specialize in eye work under a Lions fellowship. Executive offices will still be maintained at 333 Carroll St., N.W.

The eye bank was founded in 1957.

PERSONALS

Dr. Alan Frank Kreglow was elected a *Vice President* and **Dr. O. B. Hunter, Jr.** reëlected *Secretary* of the American Therapeutic Society which held its meeting in Atlantic City, June 4–7. Dr. Hunter has served as Secretary of the Society since 1952, succeeding his father, the late Dr. Oscar B. Hunter.

The following members of the District Medical Society were **certified by the American Board of Obstetrics and Gynecology** at its meeting on May 16, 1959: Drs. William H. Cooper, Cyril L. Crocker, Robert A. Deane, Louis E. Fettig, John S. Harrington, William P. McKelway, Louis J. Maciulla, Valgene M. Milstead, and Alvin F. Robinson.

Dr. Stanhope Bayne-Jones, an Active member of the Society, was awarded an honorary Doctor of Science degree by Western Reserve University at its 133rd annual commencement. In announcing the award, the University stated that Dr. Bayne-Jones was "well-known in the field of bacteriology and immunology, both as a public servant and private citizen."

More than 1,000 persons crowded the grounds of Montgomery County General Hospital at Sandy Spring, Md., on July 1 to honor **Dr. Jacob W. Bird,** an Associate member of the District Medical Society since 1927, for his 50 years of community service. A portrait and an automobile were given to Dr. Bird.

Governor J. Millard Tawes of Maryland thanked Dr. Bird for his services to the community. Dr. Bird was a member of the Governor's Commission which established the State Welfare Department. He was also instrumental in establishing Montgomery County's Juvenile Court, Health Department, Tuberculosis and Heart Association, and Social Service League. It is estimated that he has delivered 4,000 babies.

When Dr. Bird began to practice, telephones were so rare he worked out a system of signals with neighborhood storekeepers who flew a blue flag whenever he was needed.

Dr. Edgar M. McPeak was installed as President of the Washington Rotary Club on July 1. He will serve for the year 1959–60.

Dr. Robert H. Barter, Professor of Obstetrics and Gynecology at George Washington University, made a six-weeks' trip to the Far East as consultant to the U. S. Air Force.

Dr. Riley F. Thomas, Associate Professor of Medicine at Howard University School of Medicine and an Active member of the Society, retired as a member of the faculty on June 30.

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Medical Department, United States Army: Cold Injury, Ground Type. Editor in Chief: Colonel John Boyd Coates, Jr., M.C.; Associate Editor: Elizabeth M. McFetridge, M.A. Prepared under the direction of Major General S. B. Hays, The Surgeon General, United States Army. Pp. 570. Washington 25, D.C.: Office of the Surgeon General, Department of the Army, 1958.

That the Patient May Know. An Atlas for Use by the Physician in Explaining to the Patient. Harry F. Dowling, M.D., Sc.D., Professor of Medicine, University of Illinois, and Tom B. F. A. Jones, Professor of Medical Illustration, Emeritus, University of Illinois. Assisted by Virginia Samter. Price, $7.50. Pp. 139. Philadelphia: Saunders, 1959.

Surgery of the Foot. Henri L. DuVries, M.D., Clinical Instructor in Surgery, Chicago Medical School; Attending Surgeon, Columbus Hospital, Mother Cabrini Hospital, and Frank Cuneo Hospital; Chairman, Department of Surgery, Illinois College of Chiropody and Foot Surgery, Chicago. Foreword by Karl A. Meyer, M.D. Introduction by Edward L. Compere, M.D.

Price, $12.50. Pp. 494, with 403 illustrations. St. Louis: Mosby, 1959.

United States Department of Defense: Emergency War Surgery. U. S. Armed Forces Issue of Nato Handbook Prepared for Use by the Medical Services of Nato Nations. Price, $2.25. Pp. 411. Washington 25, D.C.: Superintendent of Documents, U. S. Government Printing Office, 1958.

Preventive Medicine—Principles of Prevention in the Occurrence and Progression of Disease. Edited by Herman E. Hilleboe, M.D., Commissioner of Health, State of New York, Department of Health, Albany, and Granville W. Larimore, M.D., Deputy Commissioner of Health, State of New York, Department of Health, Albany. Price, $12.00. Pp. 731, with 59 illustrations. Philadelphia: Saunders, 1959.

Diseases of the Nose, Throat, and Ear, 2nd ed. Edited by Chevalier Jackson, M.D., Sc.D., LL.D., L.H.D., F.A.C.S., Late Honorary Professor of Laryngology and Broncho-Esophagology, Temple University Medical Center, Philadelphia, and Chevalier L. Jackson, M.D., M.Sc., F.A.C.S., Professor of Laryngology and Broncho-Esophagology, Temple University Medical Center, Philadelphia. With the collaboration of 61 outstanding authorities. Price, $20.00. Pp. 886, with 1193 illustrations. Philadelphia: Saunders, 1959.

Trauma. Harrison L. McLaughlin, M.D., Professor of Clinical Orthopedic Surgery, College of Physicians and Surgeons, Columbia University. Price, $18.00. Pp. 784, illustrated. Philadelphia: Saunders, 1959.

An Atlas of Normal Radiographic Anatomy, 2nd ed. Isadore Meschan, M.A., M.D., Professor and Director, Department of Radiology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina; Consultant, Walter Reed Army Medical Center, Washington, D. C.; Formerly Professor and Head of the Department of Radiology, University of Arkansas School of Medicine. With the assistance of R. M. F. Farrer-Meschan, M.B., B.S. (melbourne, australia), M.D., Research Associate, Department of Radiology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina. Price, $16.00. Pp. 759, with 1446 illustrations. Philadelphia: Saunders, 1959.

Textbook of Pediatrics, 7th ed. Edited by Waldo E. Nelson, M.D., D.Sc., Professor of Pediatrics, Temple University School of Medicine; Medical Director of Saint Christopher's Hospital for Children. With the collaboration of 81 contributors. Price, $16.50. Pp. 1462, with 428 illustrations. Philadelphia: Saunders, 1959.

Hernia. Sir Heneage Ogilvie, K.B.E., M.A., M.Ch., M.D., F.R.C.S., Consulting Surgeon, Guy's Hospital. Price, $6.50. Pp. 135. London: Arnold, 1959. Baltimore: Williams & Wilkins, exclusive U. S. agents.

Synopsis of Treatment of Anorectal Diseases. Stuart T. Ross, M.D., F.A.C.S., F.I.C.S., Diplomate of the American Board of Proctology; Secretary of the American Board of Proctology; Fellow and Past President of the American Proctologic Society; Fellow of the New York Proctologic Society; Fellow of the Pennsylvania Proctologic Society; Honorary Fellow of the New Jersey Proctologic Society; Corresponding Member of Sociedad Brasileira de Proctologia. Price, $6.50. Pp. 240, illustrated. St. Louis: Mosby, 1959.

Moloy's Evaluation of the Pelvis in Obstetrics, 2nd ed. Charles M. Steer, M.D., Med. Sc.D., F.A.C.S., F.A.C.O.G., Associate Professor of Clinical Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University, and the Sloane Hospital for Women. Price, $4.00. Pp. 131, with 57 illustrations. Philadelphia: Saunders, 1959.

Ciba Foundation Symposium on Carcinogenesis—Mechanisms of Action. G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Maeve O'Connor, B.A., Editors for the Ciba Foundation. Price, $9.50. Pp. 336, with 48 illustrations. Boston: Little, 1959.

Ciba Foundation on Symposium the Regulation of Cell Metabolism. G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc. Price, $9.50. Pp. 387, with 109 illustrations. Boston: Little, 1959.

TOM ALFRED WILLIAMS, M.D.
(1870–1959)

Dr. Tom A. Williams, prominent neurologist in the District of Columbia for 25 years, died, May 27, 1959, in Bournemouth, England. He is still remembered by many Washington physicians.

Dr. Williams was born in Edinburgh, Scotland, on March 23, 1870. He graduated in medicine from the University of Edinburgh, following which he practiced medicine in Scotland, South Africa, and England.

He lived in Washington from 1907 to 1932. During this period he served as President of the Washington Psychological Society and the Washington Society of Nervous and Mental Disorders. In 1923 he served as head of a special advisory medical committee for the Senate's investigation of the administration of the Veterans Bureau. In the 1920's he was Chairman of the Section on Neurology of the Southern Medical Association.

Dr. Williams was internationally known in the field of neurology. He was the author of several books and over 200 articles in neurology and psychiatry.

He was a member of the Medical Society of the District of Columbia from 1909 until he resigned in 1925. He moved to Florida and later to England. In 1936 he wrote to the President of the Medical Society that he had recovered sufficiently from illness to become associated with the International Clinic of Sherwood Park, England.

Surviving him are his wife, Mrs. Minnie Williams, and a son, Reginald A. F. Williams, formerly assistant military attaché at the British Embassy in Washington.

ERNEST CLAY SHULL, B.A., M.D.
(1893–1959)

Dr. Ernest C. Shull, a practicing physician in Herndon, Va., for 32 years, died, May 7, 1959, in Doctors Hospital.

Dr. Shull was born in Marlboro, Va., August 17, 1893, to Briscoe C. and Emma Hancock Shull. After graduating from high school in Winchester, Va., he enrolled at Washington and Lee University, graduating in 1917. With the advent of World War I he enlisted and served with the Base Hospital No. 41 in France.

After the War ended he studied medicine at the Medical College of Virginia in Richmond and received his degree in 1924. He interned for a year at St. Elizabeths Hospital in Washington, D.C.

Dr. Shull had courtesy privileges at most of the Washington hospitals. He was a civic leader in Herndon for many years. He was the founder and first President of its Rotary Club. He served on the School Board for more than 20 years and was Past President of the Parent-Teachers Association. He helped to found the public health clinic in Herndon.

He was a member of the American Medical Association, the Southern Medical Association, the Virginia Medical Society, and the Fairfax County Medical Society, and an Associate member of the Medical Society of the District of Columbia since 1940. He was a vestryman at St. Timothy's Episcopal Church and a member of the Herndon Masonic Lodge.

He leaves his wife, Mrs. Doris Owen Shull; a son, Dr. Owen C. Shull, of Richmond; and three daughters, Mrs. Joan S. Warren, of Herndon, Mrs. Nancy S. White, of Hyattsville, Md., and Mrs. Sally S. Long, of Alexandria, Va.

THOMAS A. N. HINDMAN, B.S., M.D.
(1910–1959)

Dr. Thomas A. N. Hindman, general practitioner of Kensington, Md., died suddenly at his home, 3935 Baltimore Street, Kensington, April 28, 1959.

Dr. Hindman was born in Cross Creek, Pa., March 17, 1910. His parents, Dr. and Mrs. Audley O. Hindman, of Burgettstown, Pa., survive him.

After attending schools in Burgettstown, he enrolled at the Washington and Jefferson College in Washington, Pa., receiving his B.S. degree in 1932. His medical training was secured at the University of Pittsburgh, from which school he was graduated in 1938. After a year's internship at Mercy Hospital in Pittsburgh, he engaged in practice in Burgettstown until 1941, when he entered military service.

Dr. Hindman began active duty as a First Lieutenant in the Medical Corps of the Army. After attending the Command General Staff School at Fort Leavenworth, Kansas, he took part in the Western Pacific theater. For bravery in the Marianas Campaign he won the Bronze Star medal. When released from active duty in 1946 he held the commission of Lieutenant Colonel.

After the War he served briefly as admitting officer at Mount Alto Veterans Administration Hospital before entering general practice in Washington, D.C., in 1946. He later moved his practice to Kensington, Md., where he had maintained an office for the last 12 years.

He was a member of the American Medical Association and the Montgomery County (Md.)

Medical Society. He was elected an Active member of the Medical Society in 1947 and transferred to Associate the following year. He continued his latter membership until 1954.

Surviving him, in addition to his parents, are his wife, Mrs. Margaret Finegan Hindman; three sons, Thomas, Jr., Donald and James; and two daughters, Nancy and Mary Jane, all of the home address. He leaves two sisters, Mrs. Helen Clark, of Washington, Pa., and Mrs. Hettie Krause, of Haddenfield, N. J., and a brother, the Reverend Dr. Lloyd Hindman, a missionary stationed in Korea.

Phenformin for Diabetes Mellitus—Sugar et al

(*Continued from page 431*)

13. Bergen, S. S., Jr.: Influence of phenethylbiguanide (DBI) on ACTH-tolerance tests and NEFA metabolism, presented at Symposium on Phenformin.[2]
14. Bolinger, R. E., McKee, W. P., and Davis, J. W.: Interaction effects of DBI, insulin and epinephrine on isolated rat diaphragm, presented at Symposium on Phenformin.[2]
15. Weller, C., and Macauley, A.: Therapeutic evaluation of use of phenformin (DBI) in treatment of diabetes mellitus, presented at Symposium on Phenformin.[2]
16. Sugar, S. J. N.: M. Ann. District of Columbia, 1957, **26**, 293.
17. Sugar, S. J. N., Thomas, L. J., and Tatlier, S.: Ibid., 1958, **27**, 445.

"One-shot" Hay Fever Treatment—Seltzer

(*Continued from page 437*)

fully and cautiously with our evaluation, lest premature usage and widespread publicity, before all of the pitfalls are evaluated, cause adverse public reaction and thus set back our scientific progress. At the present this is a method for the well-trained investigator who has the time, the facilities, and the desire to do a careful study and an impartial evaluation of this new procedure. This method can then become a safe, simple, and easy way to treat many of our allergy problems.

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BIBLIOGRAPHY

1. Freeman, J.: Hay Fever: A Key to the Allergic Disorders. London: Heinemann, 1950.
2. Bray, G. W.: Recent Advances in Allergy (Asthma, Hay Fever, Eczema, Migraine, etc.), 2nd ed. With Foreword by Arthur F. Hurst. Philadelphia: Blakiston, 1934.
3. Sutton, C.: Hay fever. M. Clin. North America, 1923, **7**, 605.
4. Boyd, W. C.: Fundamentals of Immunology, 3rd ed. New York: Interscience, 1956.
5. Freund, J.: Some aspects of active immunization. Ann. Rev. Microbiol., 1947, **1**, 291.
6. Loveless, M. H.: Humoral antibody and tissue tolerance induced in pollen sensitive individuals by specific therapy; preliminary report. South. M. J., 1940, **33**, 869.
7. Loveless, M. H.: Repository immunization in pollen allergy. J. Immunol., 1957, **79**, 68.
8. Brown, E. A.: Prevention of reactions to repository injection treatment. Ann. Allergy, 1957, **15**, 499.
9. Brown, E. A.: Treatment of ragweed pollinosis with single annual emulsified extract injection. Ibid., 1958, **16**, 281.
10. Brown, E. A.: Treatment of tree pollen sensitivity with single annual injections of emulsified extract. Ibid., 1958, **16**, 353.

Gastroscopy and Esophagoscopy—Sullivan and Myers

(*Continued from page 446*)

10. Brick, I. B., and Palmer, E. D.: Am. J. Roentgenol., 1955, **73**, 387.
11. Hufford, A. R.: Am. J. Gastroenterol., 1956, **25**, 272.
12. Billingsley, W. K., Jr.: M. Ann. District of Columbia, 1957, **26**, 20.
13. Stempien, S. J., Dagradi, A. E., Sanders, D. M., and Schindler, R.: J.A.M.A., 1955, **159**, 22.
14. Atkins, L., and Benedict, E. B.: New England J. Med., 1956, **254**, 641.
15. Joske, R. A., Finckh, E. S., and Wood, I. J.: Quart. J. Med., 1955, **24**, 269.
16. Ylvisaker, R. S., Carey, J. B., Myhre, J., and Carey, J. B., Jr.: Gastroenterology, 1955, **28**, 88.
17. Palmer, E. D.: Medicine, 1954, **33**, 199.
18. Schindler, R. (Los Angeles): Am. J. Digest. Dis., 1955, **22**, 336.
19. Wolf, J., Rossman, M., and Flood, C. A.: Gastroenterology, 1957, **32**, 1050.

Private Practice and Industrial Medicine—Pyle

(*Continued from page 458*)

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BIBLIOGRAPHY

1. Proceedings of the New York Meeting: Report of Reference Committee on Hygiene, Public Health, and Industrial Health. J.A.M.A., 1957, **164**, 1104.

e conditions: Two or three ts four times daily. After ed response is obtained, ually reduce daily dosage hen discontinue.

cute or chronic conditions: lly as above. When satisfactory ol is obtained, gradually reduce aily dosage to minimum tive maintenance level. For best ts administer after meals and dtime.

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Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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Book Reviews

Current Therapy—1959. Latest Approved Methods of Treatment for the Practicing Physician. Edited by Howard F. Conn, M.D., with 12 consulting editors. Price, $12.00. Pp. 781. Philadelphia: Saunders, 1959.

This annual volume of a now well-known publication lives up to its excellent reputation of former years. The consulting editors are an outstanding group of authorities in various special fields of medicine, and the numerous contributors are experts in the subjects they have discussed. It was originally thought that adequate attention should be given to different schools of thought in the treatment of any specific disease, and to do this articles by 2 to 4 authors were presented for each disease. However, the Editor-in-chief states: "With succeeding editions, however, it became apparent that in certain diseases treatment methods differed only slightly in any one year, that annual editions allow publication of significant changes without undue delay, and that the policy of rotation of topics among different authors adequately covers the problem of insuring that all schools of thought are represented. For these reasons more than one treatment method for a specific disease is now given only when major differences of opinion among authorities exist." This reviewer is not sure that he agrees with this plan. Nevertheless, the individual discussions are excellent and well worth studying. This is a good reference book for rapid scanning in the office when the physician wishes to select a suitable method of treatment in a particular case.

The value of the book has been increased by the inclusion of tables of normal laboratory values of clinical importance, a list of packaging information of all registered drugs mentioned in the volume, and an extensive table of pediatric dosages. The section on poisonings has been increased in order to give in the space available more information on the care of patients exposed to the more common toxic agents.

This book can be highly recommended for the practicing physician.

Diseases of Metabolism. Detailed Methods of Diagnosis and Treatment, 4th ed. Edited by Garfield G. Duncan, M.D., with 22 contributors. Price, $18.50. Pp. 1104, illustrated. Philadelphia: Saunders, 1959.

This is the fourth edition of a volume which first appeared in 1942. Its purpose "has been to bring into focus progress in methods of investigation, with changing concepts that have ensued and the incorporation of the modifying influences which these changes exert in the clinical field of metabolism." The book represents the present-day information and opinions which 22 well known clinicians and investigators in the United States consider to be representative of the thinking in their respective fields. A full list of references serves to increase the value of this book.

The first 4 chapters are devoted to the metabolism of protein, carbohydrate, lipid and minerals, and are comprehensively and interestingly reviewed. Numerous illustrative diagrams are printed. The chapters on water balance in health and disease contain considerable information of practical value. The chapter on diseases of the thyroid is complete and up-to-date, discussing the various advances in diagnosis and treatment, including the use of radioactive isotopes.

Approximately 20 per cent of the book is devoted to carbohydrate metabolism, melituria, diabetes mellitus and juvenile diabetes. The reviewer has seen no better short review of the present-day treatment of diabetes mellitus than that presented by Duncan and White.

This book can be recommended to those who would like to be able to refer to an up-to-date general review of metabolism with discussions concerning the various problems encountered in this field.

E. Clarence Rice, M.D.

Textbook of Surgery, 3rd ed. Edited by H. Fred Moseley, M.A., D.M., M.Ch. (Oxon), F.A.C.S. F.R.C.S. (Eng.), F.R.C.S.(C). Price, $17.00. Pp. 1336 with 738 text illustrations and 108 color plates. St Louis: Mosby, 1959.

The third edition of this classic textbook of surgery has been greatly improved as to coverage and content in comparison with previous editions. The sections on Surgery of the Heart, Great Vessels, and Lungs have been rewritten, and expanded. New chapters on cardiac surgery and pediatric surgery have been added.

The book covers all of surgery and its subspecialties to a fine degree of thoroughness without going too far into the technical aspects of surgical practice. The chapter on the development of surgery makes delightful reading. As a general criticism, it might be mentioned that in those fields where actual treatment is discussed the authors fail to go far enough into alternate methods of treatment and pretty much discuss only the practice at their own centers.

The illustrations are excellent, many of them being a part of the Ciba Collection of Medical Illustrations.

This book will provide an excellent backbone for teaching medical students.

W. Leonard Weyl, M.D.

(*Continued on page 52*)

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References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2. Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Dolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.

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Book Reviews

(*Continued from page 48*)

The Anatomy of the Nervous System—Its Development and Function, 10th ed. Stephen Walter Ranson, M.D., Ph.D. Revised by Sam Lillard Clark, M.D., Ph.D. Price, $9.50. Pp. 622, with 434 illustrations. Philadelphia: Saunders, 1959.

Dr. Sam Clark's revision of the Anatomy of the Nervous System by the late Professor Ranson contains 567 pages of detailed neuro-anatomical facts, descriptions and excerpts of neurophysiology. It is a refreshing idea that Dr. Clark has not only examined how the central nervous system is made up but also how it works. The student of neuro-anatomy will find it pleasing to note a significant change in the nomenclature, which now conforms to "The International Anatomical Nomenclature" (1955). This should serve to eliminate considerable confusion, although all of the points in neuro-anatomy are not covered by this nomenclature.

It was disappointing to me to find that exactly 10 pages were devoted to the blood supply of the brain, including illustrations. This phase of anatomy is proportionately more significant and growing greater each day. I would suggest that an entire chapter be devoted to this subject, which should include anastomoses and variations of the arterial blood supply to the brain. The neck might also be included since it relates directly to what happens in the central nervous system.

The diagrams of cerebellar localization are good and it would have been interesting to see a parallel Weigert-Pal section next to the diagrammatic representations of localized function.

At the end of many chapters Dr. Clark ably points out the function of the parts discussed in the previous chapter. These serve as important orientations to the function of the central nervous system. I would encourage more of this sort of thing, for it adds a more dynamic quality to anatomy for the student in medical school.

The seventeenth chapter on the rhinencephalon is excellent and deserves reading by every neurologic practitioner. This division includes the hippocampus, the amygdala, the orbital surface of the frontal lobe, the insula, and the cingulate gyrus. The increasing prominence of these structures in relationship to emotional reactions is well recognized. He tends to stress the idea that fundamental connections of olfactory mechanisms with both visual and somatic activity are just as significant in man as in lower forms, even though the olfactory sensibility of man appears to be not as acute. The uncus and hippocampus have assumed greater significance in the last few years in view of their direct relationships with psychomotor epilepsy in man. The cross section of this area, shown on page 343, is worthy of review, and the olfactory connections on page 345 suggest the explanations of many clinical problems.

Congratulations are in order to Dr. Clark for his scholarly revision.

Arthur A. Morris, M.D.

Difficult Diagnosis. A Guide to the Interpretation of Obscure Illness. H. J. Roberts, M.D. Price, $19.00. Pp. 913, with 99 illustrations. Philadelphia: Saunders, 1958.

As the effort of a single author, this book represents a remarkable piece of medical writing. Presented from the viewpoint of the experience of a single physician, the book presents an approach that could be of tremendous value to the internist and general practitioner. It is not the primary intention to be the last word in a specific subject, nor as the ultimate in differential diagnosis, but as a working guide to the everyday evaluation required in medical practice.

It should be made clear to the reader of this book that the interpretation of obscure illness is not necessarily synonymous with the diagnosis of rare and infrequently seen diseases. How else could you justify the inclusion of psychosomatic disorders and the menopause problem in such a text? However, for those who are interested in medical curiosities, the sections in endocrinopathies and the atlas, particularly of cutaneous disorders, should well satisfy their requirements.

The book is divided into 3 sections: the first, groupings of related diseases frequently producing puzzling illness; the second, a classification and analysis of useful diagnostic procedures; and the third, unlisted, a 62-page Atlas of Systemic Dermadromes, with demonstrative photographs, some of them in color, and none of them original.

The reader who is stimulated by any particular aspect of the text which is not adequately covered will be pleased to find an extensive bibliography of some 120-odd pages following each of the major sections. This bibliography, in addition to its scope, is amazingly up-to-date in its inclusiveness.

A minor annoyance is the repetition of one single disorder found in several different sections, since the groupings of diseases are arranged as groups, rather than specific illnesses. No major inaccuracies were to be found in the body of the text, nor could any serious exclusions be found.

If the intention of the author was to produce a one-volume work for frequent reference in a doctor's office as opposed to enclycopedic, multiple-volume efforts on single subjects, or a single volume that could be used as a textbook for medical students, then perhaps he has come closer than others who have attempted to answer this challenge.

Marvin Fuchs, M.D.

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VALUE OF T-WAVE ABNORMALITIES IN THE DIAGNOSIS, PROGNOSIS, AND TREATMENT OF CORONARY ARTERIOSCLEROTIC HEART DISEASE

DAVID HALBERSLEBEN. M.D.
Boston

PHYSICIANS, patients, and members of the public at large who are not patients are more and more regarding arteriosclerotic coronary arterial heart disease as one which is or should be subject to prevention, earlier recognition, and treatment, at least in greater degree than has often been the case. Supine acceptance of the ravages of the disease can no longer be condoned. The following case records and pathologic study illustrate some of the situations encountered in which electrocardiographic T-wave abnormalities may be of value in the diagnosis, prognosis, and treatment of the disease.

Case 1. Mr. J. W. was a 54-year-old salesman when he asked for a full examination on January 16, 1947. His history gave no indication of cardiac disability, and the examination was normal except for a blood pressure of 145/90. The ECG (figure 1) was normal with excellent height and curving of T waves throughout. At the next visit on April 3, 1948 he stated that he tired easily. Examination was again normal except for a blood pressure of 160/90. No ECG was taken. At his third visit on April 16, 1949 he stated that he tired easily and was working hard. While sitting at his office desk 4 days earlier he had perspired a bit, then felt a pain over the lower sternum involving an area about 3 inches in diameter. The pain was moderately severe for a half hour before it eased, and a little soreness persisted for 5 hours. Then he belched a lot and felt as well as usual. He volunteered that he was quite excited about matters in the office when the pain occurred. The oral temperature was 99.0°F, the pulse rate 84, the respiratory rate 18, the blood pressure 165/95, and the white blood cell count 8,600. The physical examination again was normal. An ECG showed a reduction of 0.5 mm. in the height of T_1, of 1.5 mm. in T_2, a slightly increased inversion of T_3, and a reduction of 0.7 mm. in the height of T in V_5, compared with the tracing of January 16, 1947. The patient was advised to go home to rest inside the house until a reëxamination at his home in 5 days.

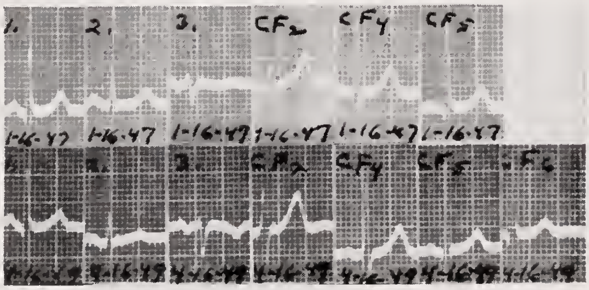
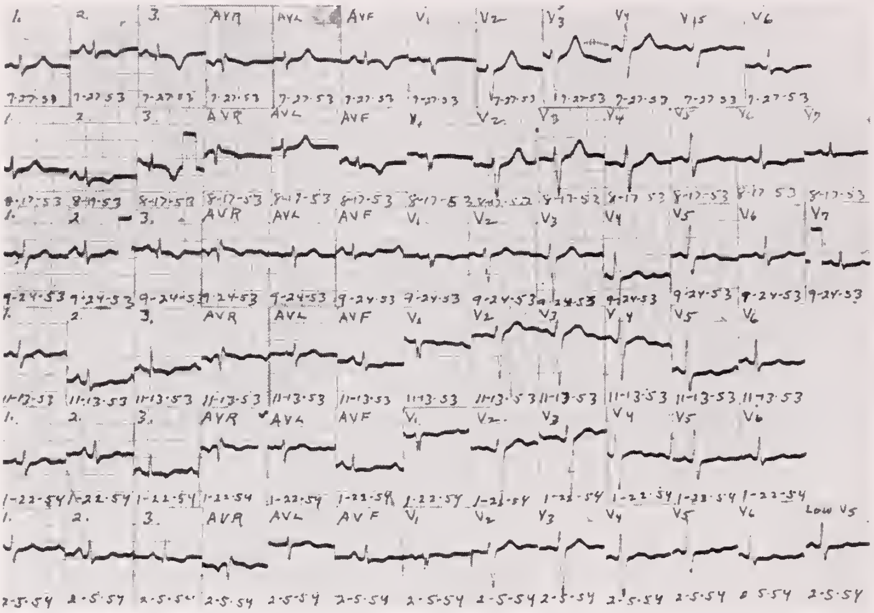


FIG. 1. Case 1. Lowered T in leads 1, 2 and CF_5, 4 days after chest pain. Patient ignored advice to rest; died $1\frac{1}{2}$ yrs. later of myocardial infarctions.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1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6
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1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6
1-22-54
1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6 Low V5
2-5-54

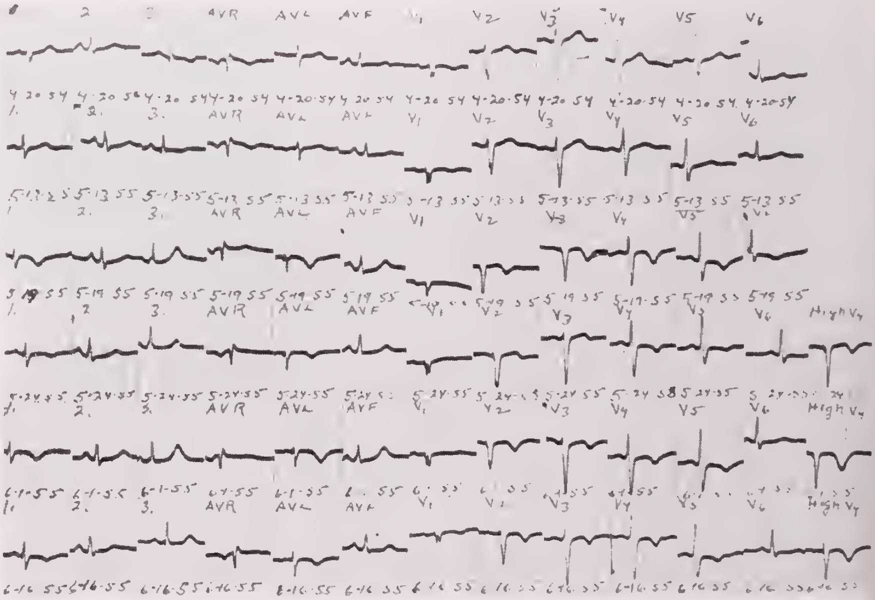
FIG. 2-A. Case 2. Inverted T waves of initial lesion. Lowering and notching of T in $V_{3,4}$ on and after November 13, 1953; this is site of infarction with Q wave 1½ yrs. later.

However, he telephoned the next day that he felt perfectly well, had gone out of the house, and would return to work. He cancelled arrangements for further medical attention.

His widow filled in the remainder of the story. On April 30, 1950 he had an obviously disabling heart attack with chest pain, for which he was hospitalized 3 or 4 weeks and was out of work for over 3 months. After 4 months of work he developed a severe pain in the chest following the evening meal and died an hour or 2 later.

> The lowered T waves were the first objective evidence of myocardial embarrassment due to coronary arteriosclerosis which caused death 1½ years later.

Case 2. Miss S. R. at the age of 43 gave the story that while ironing in the afternoon 3 weeks before the examination on July 27, 1953 there was an extremely sudden onset of a severe burning type of pain across the upper abdomen extending up the front of the chest into the neck. "It was really a terrifying thing." The pain lasted about 5 minutes in each of 3 attacks within an hour. She was relieved by a drink of hot water and belching. The pain disappeared entirely, and she did not feel bad the rest of the day but felt tired and stayed in bed the next day. While at work in the office 6 days later there was another attack of pain of similar severity and type lasting 10 minutes and disappearing soon after taking Alka Seltzer. A similar attack occurred 8 days later. For a few days following this the patient felt tired but had no recurring chest pains. There was an attack with less severe pain 2 days before the examination, but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1 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6
5-19-55
1. 2 3. AVR AVL AVF V1 V2 V3 V4 V5 V6 High V4
5-24-55
1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6 High V4
6-1-55
1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6 High V4
6-16-55

FIG. 2-B. Case 2. Improvement of T in $V_{3,4}$ on April 20, 1954 following rest. Deterioration of T in same location 4 days before major infarction in that area. Transient character of Q and value of additional leads illustrated in lower 4 tracings.

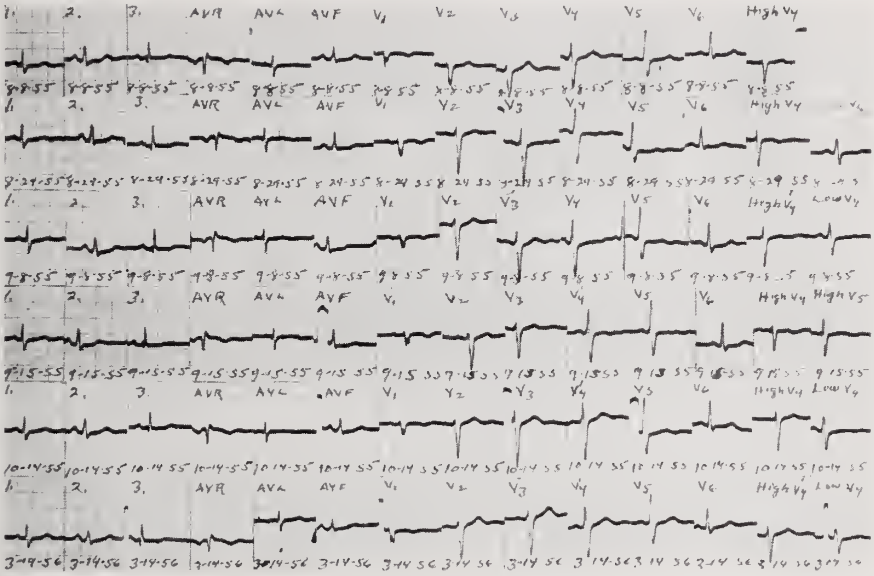

FIG. 2-C. Case 2. Deterioration of T in V_{2-5} on August 29, 1955, following momentary weakness without pain. Slight improvement on September 8, 1955, followed by slight deterioration, then by greater improvement. This cycle occurred in area adjacent to major infarction of May, 1955.

she felt uncomfortable for several hours afterward with pain in the epigastrium, lower half of the sternum, on the left side of the neck, on the left side of the upper lip, and in the left ear. There was also aching in the left arm. Examination was not remarkable except for an oral temperature of 99.2°F. The blood pressure has always been normal. ECG tracings (figures 2 A–D) show several interesting features.

1. With the clear-cut history of sudden attacks of chest pain, the ECG abnormalities on July 27, 1953 were of only the T waves.

2. T-wave abnormalities of considerable degree persisted with little change for a period of 3 weeks, then subsided gradually. This degree and duration of the T-wave abnormalities suggest a metabolic disorder of the myocardium of sufficient severity to be associated with probable death of some muscle.

3. The patient started part-time work on November 4, 1953. The ECG 9 days later showed a new feature, lowering and notching of the peak of T in leads $V_{3,4}$.

4. The patient's chest was comfortable, but in mid-January she noticed that her legs tired quickly on walking. This symptom had been present before the original attack of chest pain. Because of this symptom and deterioration of T in V_4 on January 22, 1954 the patient ceased work and took bed rest. She was out of work until February 23, 1954. Some improvement of T in $V_{3,4}$ was evident within 14 days after starting the rest. The T waves were considerably improved by April 20, 1954. Increasing work had, in December and January, been followed by T-wave deterioration; rest in late January and February was followed by T-wave improvement.

5. T-wave deterioration was just perceptible on May 13, 1955. She was awakened 4 nights later by a hot sensation in the throat and at the upper end of the sternum. This quickly developed into a pain which became severe and spread down the sternum, to the left shoulder and arm, down to the left wrist, and in lesser degree into the right arm. Subsequent ECG's showed absence of R and inverted T waves indicating

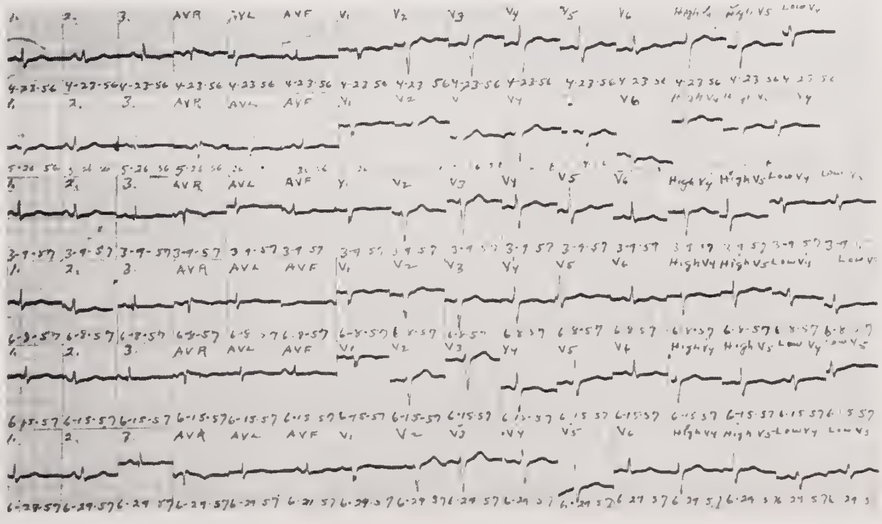
1. 2. 3. AVR AVL AVF V1 V2 V3 V4 V5 V6 High V4 High V5 Low V4
High V4 High V5 Low V4

FIG. 2-D. Case 2. Deterioration of T in $V_{3,4}$ while concerned about change of employment. Improvement of ECG when employment favorably resolved. Deterioration of T in V_4 under office work pressure; prompt ECG improvement with lessening of work load.

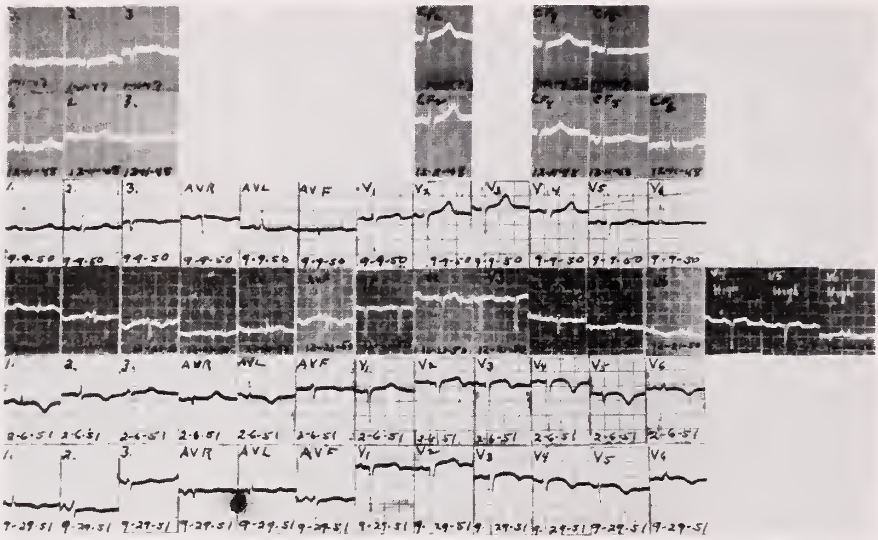

Fig. 3. Case 3. T-wave abnormalities at cardiac apex 4 yrs. and again at 3 mos. prior to a high lateral and posterior infarction. T-wave deterioration a year later; slow and minor ECG recovery while patient continued work.

gross infarction in the area which had previously furnished recordings of lowered and notched T waves.

6. The tracings of May 24 and June 1, 1955 showed at the juncture of MCL and the third left interspace absence of R wave, when R is present in AVL and V_{2-4}. The additional lead showed a greater and more obvious abnormality than any of the 6 usually recorded precordial leads.

7. Subsequent ECG's of June 16 and August 8, 1955 showed a return of R in the leads which had shown absence of R in $V_{2,3}$ in a single tracing (May 19, 1955) and at MCL and the third interspace for a 2-week period. Abnormalities of R, like those of T, may be of brief duration.

8. On August 29, 1955, 2 days after a spell of sudden weakness without pain which lasted a few minutes, there was deterioration of T in V_{2-5} and above V_4. With bed rest some improvement was evident by September 8, 1955. With returning activity the patient began to have some heavy, constricted feelings across the front of the chest, worse when lying than when sitting. The T waves again deteriorated on September 15, 1955. After a few days activities were slowly increased. ECG improvement was evident on October 14, 1955. On March 14, 1956 the T waves were the best they had been at any time since the myocardial infarction 10 months earlier. Slight deterioration was evident on April 23, 1956, when undergoing anxiety associated with a change of employment. With more congenial employers there was ECG improvement a month later.

9. The T waves were of good contour on March 9, 1957. Pressure of work in the office increased. The patient could not catch up with all that needed doing, although working hard. Associations were congenial and she felt well. T in V_4 was low and notched on June 8, 1957. With permanently increased office assistance and with half-time work for a week, slight ECG improvement occurred in 7 days and greater improvement in another 14 days. Changes in the height of T at points above $V_{4.5}$ are also evident on comparison of the tracings of June 8 and June 29, 1957.

This group of ECG's demonstrates myocardial sensitiveness to an imbalance caused by a combination of work load and presumably diminished blood supply in an area of heart muscle so damaged at an earlier date that a QS wave was evident for a 2-week period.

The clinical history and the series of ECG tracings for this patient clearly illustrate that the progress of arteriosclerotic coronary disease may be marked by recurring episodes of damage of variable severity to the cardiac muscle in a given area.

Case 3. Miss M. K. complained at the age of 47 of tightness in the chest on 4 occasions in the preceding month. Examination then, January 11, 1947, showed moderate obesity and a blood pressure of 165/90. An ECG showed T nearly iso-electric in lead 1, rather low in 2, and nearly iso-electric and notched in CF_5 (figure 3). With loss of weight and more time in bed at night, the angina quickly disappeared. An ECG on December 11, 1948 was better, with T_1 measuring 1.5 mm. and T at the apex upright, though small. On September 9, 1950, T was a little smaller in leads 1 and 2, low and notched in V_5, and practically iso-electric in V_6. The patient suffered an attack of severe pain over the mid- and upper sternum, radiating directly through to the back and both sides of the face, and up to the level of the maxillary prominences on December 17, 1950. She had an acute myocardial infarction with QS patterns in the high lateral portions and markedly pathologic records from the anterior and apical portions of the heart as shown by the tracings of December 21, 1950 and February 6, 1951. Some regression of abnormalities had occurred by September 29, 1951.

In this patient, T-wave abnormalities of variable degree were noted nearly 4 years prior to a severe, extensive myocardial infarction with the greatest intensity located adjacent to the site of the early abnormalities.

Case 4. Mrs. A. F., aged 77, had a normal ECG on December 7, 1953 (figure 4). T in AVL was low on October 1, 1956. Digitalis was started after that and was being taken at the time of the next tracing on December 11, 1957. This shows lowering of T_1 and slight inversion of T in AVL; the usual 6 precordial leads continued normal and unchanged. For the first time, tracings were taken in high and low positions on the chest. At the juncture of MCL and the third interspace, T is just perceptibly lower than in V_4; and at the anterior axillary line lateral to MCL and the third space, T is barely upright and notched. T is small but better shaped in the mid- than in the anterior axillary line at the high level.

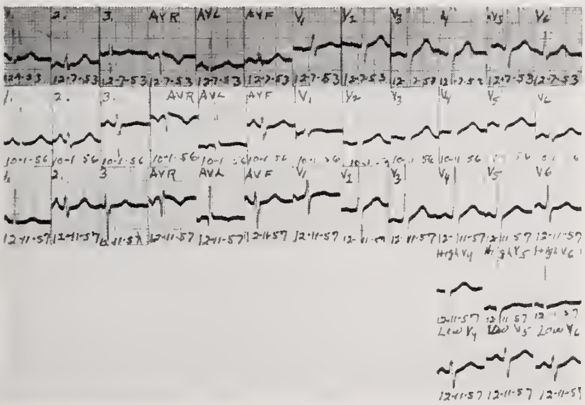

FIG. 4. Case 4. Localized abnormalities of tracing made high in anterior axillary line (high V_5) not clearly evident in conventional leads.

This case illustrates that occasionally tracings taken in addition to those at the usual 6 precordial points may show in a clearer way defects in the formation and conduction of electrical current at localized areas of the heart muscle. It is true that T is low in lead 1 and inverted in AVL in the same tracing, but without corroboration from the high lateral chest leads, the temptation is to ignore this as simply a digitalis effect. The lowering and notching of T at the single point with better waves medial and lateral to it are more likely to indicate local myocardial degeneration than general digitalis effect.

Case 5. Mr. W. B., aged 55, came for examination on July 16, 1954 because a brother, aged 64, had died suddenly a few months previously while doing light work in the garden and apparently without prior complaints. Mr. W. B. had a completely normal cardiac history. His mother had diabetes but was fairly well at the age of 88. She later, in 1956, had a myocardial infarction with good recovery. A sister was found in 1957 to have diabetes. Examination of Mr. W. B. showed the pulse rate to be 72, the respiratory rate 12, the blood pressure 125/75, the height 71½ inches, the weight 206 lbs., and a questionable test for sugar in the urine. A glucose tolerance test later gave evidence of diabetes mellitus. This was mild, and controlled by diet without insulin. An ECG (figure 5-A, B) showed T of very small excursion in all bipolar and unipolar limb leads, inverted in V_{1-4}, with inversion the least in V_4 and barely upright in $V_{5,\ 6}$. The day of examination was hot, and the patient lived on the third floor of an apartment without

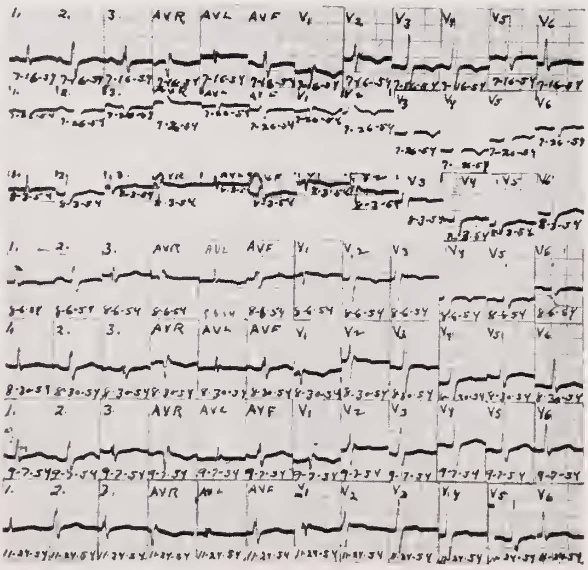

FIG. 5-A. Case 5. T-wave abnormalities over all of precordium at first examination, July 16, 1954. No cardiac symptoms and no other cardiac signs throughout course. Improvement of T by August 3, 1954; deterioration after 3 days of slight activity. Improvement on September 7, 1954, with later deterioration through November 24, 1954.

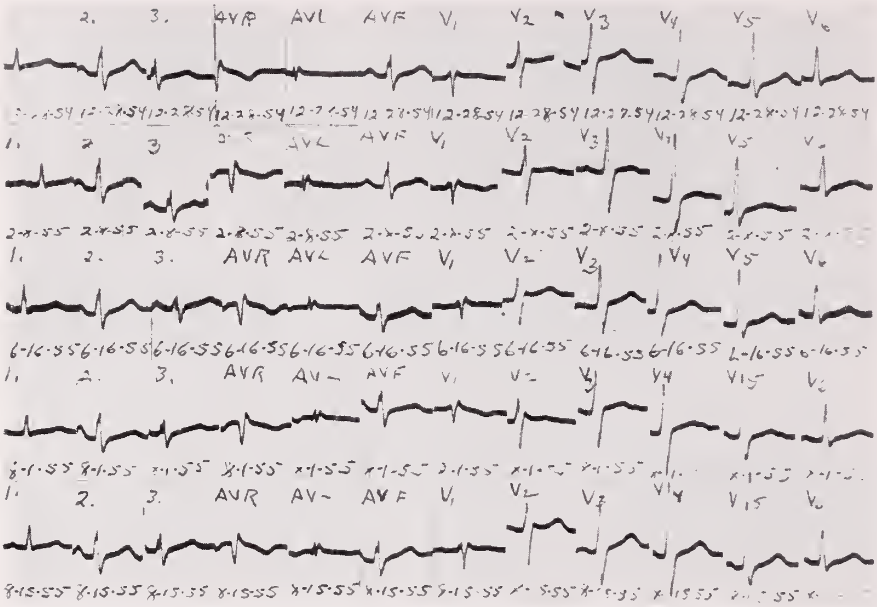

FIG. 5-B. Case 5. ECG of December 28, 1954, the best in more than 5 mos. Then variations of T within a lesser range of abnormality than in 1954, while hours of work were varied. ECG of August 15, 1955, the best in 13 mos. of observation.

an elevator. In view of these factors, the abnormal ECG, and the story of his brother's death without warning, the decision was made to move him directly to a hospital and put him at rest in bed. There was slightly more inversion in T in V_{3-5} on July 26, 1954. T was upright in V_{4-6} on August 3. Activities were increased. Since the ECG of August 6 showed deterioration of T in V_{4-6} activities were decreased. Improvement of T was evident in the tracings of August 30 and September 7 when the patient was home and on slowly increasing activity. Slight deterioration of T then occurred and persisted through November 24, 1954. This deterioration was less than in July and August. Then improvement occurred, with the tracing of December 28, 1954 being the best to that date. Since the ECG of February 8, 1955 showed T-wave deterioration the work day was shortened. Slight ECG improvement was evident in 2 weeks, and with cautious increase of activities, improvement of the ECG occurred steadily through June 16, 1955. Because deterioration of T waves was evident on August 1, 1955 activities were lessened. Improvement was rapid, the ECG of August 15, 1955 being the best of any in more than a year.

The patient had no cardiac symptoms during this period. The T waves of the electrocardiograms varied from time to time. The most abnormal record was found 10 days after the initial examination. The best record was found on August 15, 1955 after 13 months of guidance of the patient's activities. Direct comparison of those 2 tracings shows considerable difference between them, significant of a changing state of the myocardium. Since the extremes of the change, as recorded in the electrocardiographic records of July 26, 1954 and August 15, 1955 are significant, the various intermediate stages must also be significant, because the intermediate stages constitute parts of the whole. Therefore, it is important that electrocardiographic abnormalities be studied meticulously and over a prolonged period. The T-wave abnormalities, even in the absence of symptoms or other physical signs of illness, may indicate that the myocardium of the patient is undergoing an acute degenerative process worthy of treatment.

Case 6. Mr. A. R. was examined on March 10, 1941 at the age of 20, after he had been refused employment in a bank because of the finding of a heart abnormality at an examination 2½ months earlier. An X-ray film of the chest had been made prior to tonsillectomy 2 years earlier because of the finding of abnormal heart sounds. At the age of 18 he could run a mile in about 6 minutes. He gave no history of rheumatic fever although his mother had had that disease when she was 27 years old. Examination in March, 1941 showed a late systolic click. A new chest film showed a heart of normal size with a questionable bulge along the upper left margin, and the ECG (figure 6) was normal. The patient spent 3 years in the infantry during World War II and was in combat for 9 months. When he came for examination on March 10, 1956 he recalled that a few times while on the march during the War there was an ache in the precordial region. His mother died early in February,

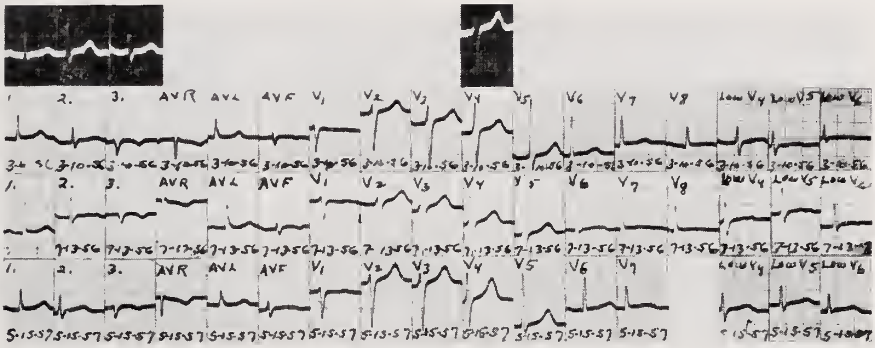
1 2 3 AVR AVL AVF V1 V2 V3 V4 V5 V6 V7 V8 Low V4 Low V5 Low V6
3-10-56
1 2 3 AVR AVL AVF V1 V2 V3 V4 V5 V6 V7 V8 Low V4 Low V5 Low V6
7-13-56
1 2 3 AVR AVL AVF V1 V2 V3 V4 V5 V6 V7 Low V4 Low V5 Low V6
5-15-57

Fig. 6. Case 6. Vague chest discomforts at age 35, 2 wks. after mother's death from heart trouble. Tracings from early life, and additional chest leads are important in clinching presence of myocardial disease. Improvement with long-term reduction of physical activity.

1956 at the age of 53, due to nearly complete obstruction of the pulmonary artery by a huge organized thrombus apparently arising some years earlier from an embolus. He began, 2 weeks after her death, to have rather persistent pains in the left pectoral region above the nipple. Sometimes there was pain just below and medial to the left shoulder and sometimes at the lower left costal margin a bit lateral to the ensiform. There had been no pain in the sternum itself and no extension of the ache to neck or arms. The character of the pain was sometimes burning, sometimes heavy and annoying, and the intensity varied from slight to moderate. There was no sweating or vomiting with the pain. Working, moving around, and hurrying up stairs did not seem to aggravate the pain. The duration varied from a few moments to many hours. The patient never tried taking soda or milk for it. There was no shortness of breath. A week before the pain began he had run for a train, covering in 5 minutes the distance he would normally walk in 10. There was no definite pain in the hours after he ran, but his chest was uneasy. He felt so exhausted for an hour or more after the running that he concluded in his own mind that he should never try that again.

Examination on March 10, 1956 was normal, and the red blood cell sedimentation rate was 4 mm. per hour. An ECG showed a distinct change from the tracing of April 21, 1941. T was low and notched in lead 2, inverted in leads 3 and AVF, and was also low and notched in 4 leads taken in positions below V_{3-6} inclusive at the level of the junction of the left midclavicular line and costal margin. Because the history and the abnormal electrocardiographic findings suggested a small myocardial infarction 3 weeks earlier the patient was advised to take a month out of work. On July 13, 1956 there was further slight deterioration of T waves in leads 2, $V_{5,\ 6,\ 7}$, and at the junction of MCL and the left anterior lower costal margin. Variations occurred in the course of the next 10 months with the tracing of May 15, 1957 showing T waves of the greatest excursion and best curving of any of the tracings since that of March 10, 1956. The patient was then working full time. He lay down for a part of his lunch hour and did limited physical work about his home. Chest pains for a few months had been less than for the preceding year.

This patient's record emphasizes 5 points:

1. The value for comparative purposes of an ECG recorded in early adult life.

2. The occurrence of vague, "atypical" chest discomforts as symptoms of coronary artery disease.

3. The ECG variability which may occur in a patient with that disease.

4. The diagnostic value of more than the usual 6 chest leads.

5. The beneficial effect upon the ECG—and presumably upon the myocardium—of long-term management with diminished physical activity.

Case 7. Mrs. A. P. was first examined in 1932 at the age of 46 with a weight of 206 lbs., a height of 59½ inches, and a blood pressure of 210/110 mm. Hg. She died almost 26 years later with myocardial infarctions due to severe coronary arteriosclerosis and obstruction of the ostium of the right coronary artery by warty arteriosclerotic excrescences.

In the first 10 years of observation the blood pressure varied from the maximum noted at her first visit to a minimum of 150/70, with the most usual being in the area of 175/100. The weight reached a low point of 174 lbs. at one time in these years.

While the patient was walking upgrade in early 1946 there occurred for the first time a rather sharp pain over the lower sternum. She stopped and the pain went away. There were a few similar pains during the next 4 months. When then examined September 27, 1946 the blood pressure was 215/110 and weight 182. A first ECG taken then was normal (figure 7 A–C). An ECG of late 1948 showed some lowering of the T waves. The patient began in September, 1952 to have more angina after being nearly free from it for a couple of years. There had been no attacks suggesting any major myocardial infarction. On November 19, 1952 the blood pressure was 220/120. An ECG showed T iso-electric in lead 2, inverted in leads 3 and AVF, and diphasic in V_6 with slight ST segment displacement. Digitalis was started at that time and continued permanently. The electrocardiograms taken after November 19, 1952 all showed some digitalis effect. An ECG 19 days later showed for the first time a deep but narrow Q-AVF. This was smaller 4 days later. In early January, 1954 the patient had 5 brief attacks of pain in the upper back and arms, most of them occurring as she returned to bed after going to the bathroom during the night to void. All attacks were relieved promptly by nitroglycerine. An ECG taken on January 16, 1954, 3 days after the last of these, showed sagging of ST and lowering of T in leads 1, 2, and AVL. Ten days later these abnormalities were lessened in the leads just mentioned but had become evident in AVF. The weight was reduced to 131 lbs. and stayed close to that for the rest of life. The patient continued to have occasional angina. In late September, 1955 increasing chest pains suggested acute myocardial infarction. Subsequent electrocardiograms showed a deepened Q_3 and T-wave changes, particularly in leads 1, 2, AVF, and V_{4-6}. By November 18, 1955 the T waves had reverted to the form they had on August 18, 1955; the deepened Q_3 persisted. The patient had been having a few chest pains, none severe, when the ECG of January 3, 1957 showed lowering of

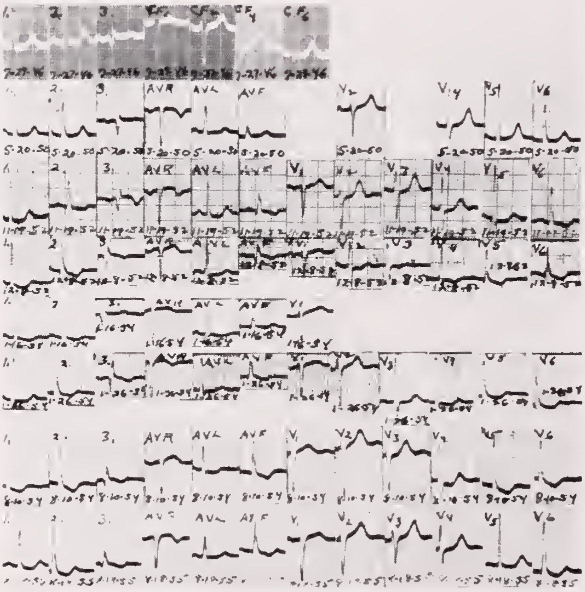

FIG. 7-A. Case 7. Infrequent angina, beginning April, 1946. Frequent angina of effort beginning September, 1952. Deep Q-AVF of brief duration, coupled with abnormal T waves noted on December 8, 1952. Anginal pain in bed, early January, 1954, followed by lowered T in apical region and AVF.

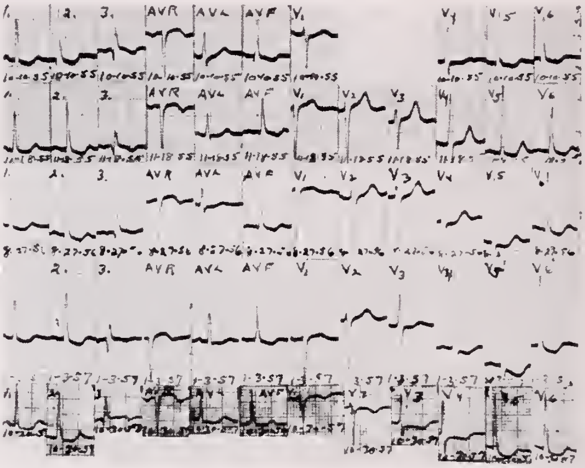

FIG. 7-B. Case 7. Severe pain for 1½ hrs. on October 1, 1955, low T about apex, reaching maximum 9 days later. Subsequent recovery. Frequent pain on very light exertion, relieved only by standing, in last week of October, 1957. T in V_{1-3} inverted on October 30, 1957, for first time in 11 yrs. of ECG records.

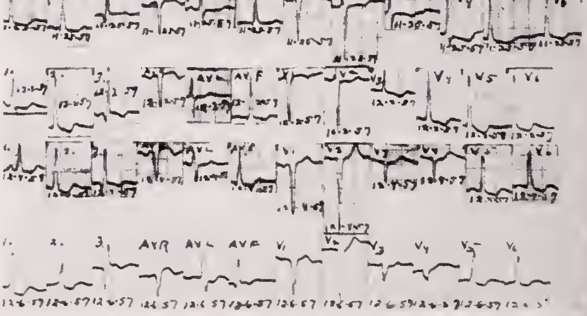

FIG. 7-C. Case 7. Changing T waves in last 7 weeks of life; multiple vascularized bits of scar in heart muscle probably forming in this period. ECG evidence of fresh anterior massive infarction 3 days before death.

T in V_{3-6} and more depression of ST in V_{4-6} than on August 27, 1956. Activities were not reduced, other than by the winter season keeping her in the house much of the time.

Mrs. A. P. began to have more anginal pain in late October, 1957. She found that standing, in addition to taking nitroglycerine, was necessary to give relief. Chest pain on October 29 persisted for nearly 4 hours in spite of the use of nitroglycerine, oxygen by nasal catheter, and repeated intramuscular injections of demerol. The attack of pain was the most severe and the most prolonged she had ever had. Near the end of the attack, the leukocyte count was 9,800 per cu. mm. of blood, and the erythrocyte sedimentation rate, corrected, was 44 mm. in 1 hour. An ECG made about 20 hours after the attack showed inversion of T in V_{1-3} for the first time during the 11½-year period. There was also inversion of T in V_4 and depression of ST in V_{3-6}. T and ST were improved in V_{1-5} by November 5, 1957, but T had deteriorated in leads 1, 2, and AVL. Pains were less frequent but had not disappeared during the interval between those 2 tracings.

Then chest pain became more frequent and more persistent. A rather severe attack lasted for 3 hours on the morning of November 21, 1957, and additional severe attacks occurred on November 24 and December 3. The patient's condition was good between attacks. She appeared well, with the pulse rate in the low 70's on the evening of December 3, 1957. In the middle of the night she had chest pain relieved only after a second injection of 10 mg. of morphine. There was more pain 3 or 4 hours later, followed by acute pulmonary edema. The patient improved some in the first few hours and more in the 24 hours following that attack. The heart was found to be in auricular fibrillation 48 hours after the attack of pulmonary edema but became regular again in a few hours. The patient had a good night. Chest pain came again the next morning. The pulse stayed slow and regular. The patient suddenly went into collapse and died promptly, a half hour after the onset of the pain and 72 hours after the attack of pulmonary edema.

The ECG of November 16, 1957 showed deterioration of T in AVL and V_{1-4}, and slight depression of ST_{2-4} in comparison with the record obtained 11 days earlier. A tracing made in the latter part of the prolonged attack of pain on November 21, 1957 was characterized principally by ST segment displacement in all leads, T waves of moderate height in V_{1-3}, and absent R in V_1. Much of the ST displacement disappeared and a tiny R reappeared in V_1 4 days later. R was absent in V_1 on December 2, absent in V_1 and tiny in $V_{2,3,4}$ on December 4, and absent in $V_{1,2}$ and tiny in $V_{3,4}$ on December 6, 1957, 20 hours before death.

Autopsy, as well as the clinical course, showed that death was due to myocardial degeneration dependent upon severe, extensive arteriosclerotic coronary artery disease and impairment of blood flow entering the right coronary artery by warty arteriosclerotic excrescences surrounding the ostium. One of these, directly overhanging the ostium, was shaped to a needle point. It seems likely that a shift of abdominal and intrathoracic structures might at times have forced the needle point downward partly into the ostium. The relief from pain gained when the patient stood up may have come from a reverse shift, disengaging the needle-point valve and allowing more blood to enter the artery.

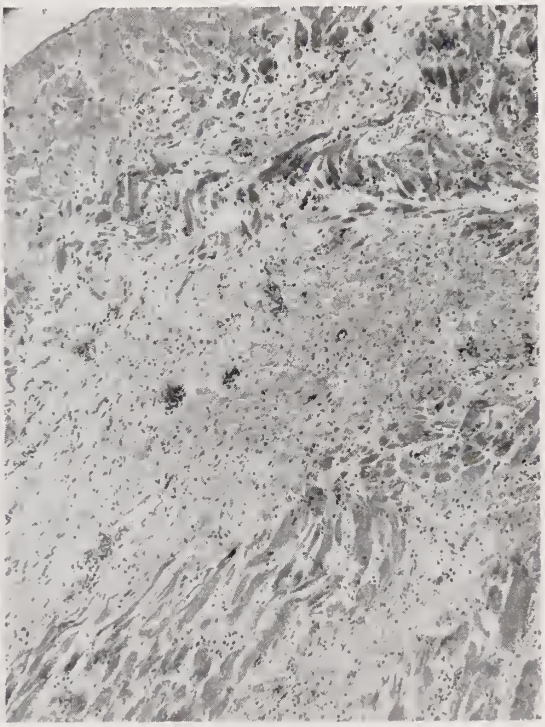

FIG. 8. Case 7. Lateral wall. Dense scar, apparently old, in large central area; muscle intermingled below. Lighter stained muscle fibers at upper left are viable; darker stained at upper right are in early necrosis.

Nowhere in the heart was there a massive transmural, old scar. Therefore, the deep Q in AVF that was first noted on December 8, 1952 and became smaller 4 days later could not have been due to a complete and permanent transmural infarction. The Q in AVF was probably associated with intramural spots of damaged myocardium, evident at autopsy as light streaks of scar in the gross, and as the areas of rather dense, relatively avascular collections of connective tissue cells such as that in the photomicrograph of figure 8. The deepened Q_3 noted from October, 1955 may have arisen from similar intramural areas of degeneration. Like the Q in AVF it could not have arisen from a transmural infarction, since there was no scar of one.

At no time until 16 days before death was there an absence of R in any precordial electrocardiographic record. R in V_1 was then absent but reappeared 4 days later. Five days before death R was absent in V_1 and tiny in V_{2-4}; R was absent in $V_{1,2}$, tiny in $V_{3,4}$ the day before death. Fresh necrosis in the septum and anterior wall, as shown pathologically by dark-staining muscle fibers and leukocytic infiltration (figure 9), account readily for the absence of R in the last few days of life.

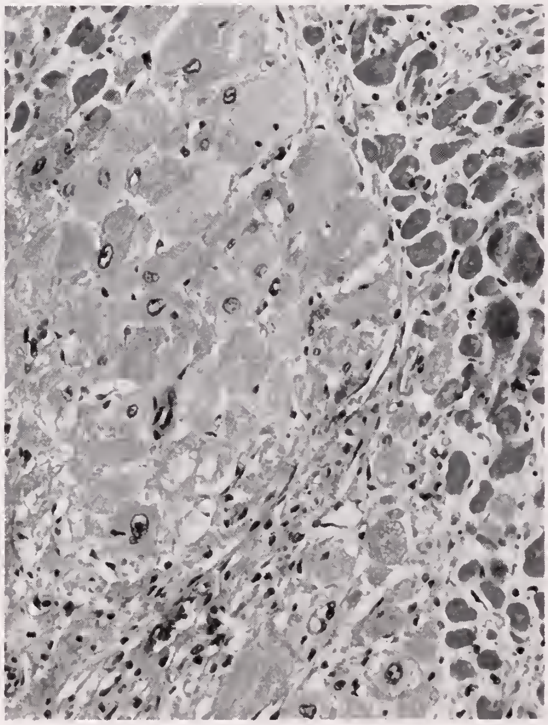

Fig. 9. Case 7. Anterior wall. Viable muscle fibers form bulk of light area; muscle cells in early necrosis stain darkly. Band of well-vascularized scar tissue extends from lower left corner to right of center.

During the more than 11 years of electrocardiographic observation there were repeated episodes of T-wave deterioration recorded from various regions of the heart muscle. The to-and-fro variations of T in the medial precordial leads are of particular interest in relation to the pathologic finding in the anterior wall of the heart. There was some lowering of T in $V_{2,3}$ in 1952 and again in 1955. The dense scar noted in the lower portion of the photomicrograph in figure 10 from the anterior heart wall is the residue of a bit of intramural necrosis perhaps taking place in 1952 or 1955. Certainly the dense scar is the end-result of an episode of intramural muscle degeneration of an age measured in months or years.

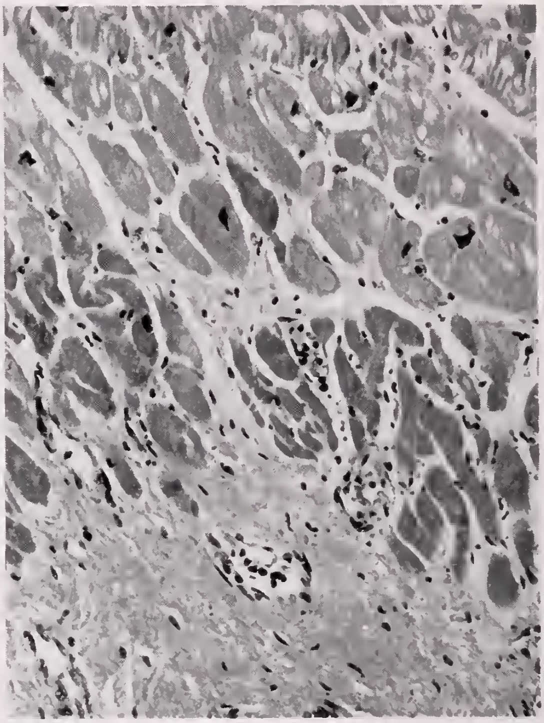

Fig. 10. Case 7. Anterior wall. At lower margin is rather dense fibrous tissue with few capillaries, appearing older than scar tissue in figure 9. Darkly stained muscle fibers in early necrosis, with a few polymorphonuclear leukocytes between them at upper border of scar.

Well-vascularized scar tissue is interpreted as a healing stage following necrosis by a period of weeks to months. Many such areas are seen in microscopic study of the anterior wall of this heart. The clinical history of repeated episodes of pain in the last 7 weeks of life indicates that there were many acute episodes of myocardial ischemia during this period, perhaps of sufficient intensity and duration to cause death of muscle tissue. Gross pathologic study demonstrated extreme limitation of blood flow through both right and left coronary artery systems. Regions subject to ischemia probably received a blood flow so limited as to be insufficient to continue an environment to insure viability of all cells, and groups of cells died, their place being occupied by the vascularized scar tissue noted when the heart was studied after death of the patient. Both clinical history of the attacks of pain and pathologic estimate of the age of the well-vascularized scar tissue place the time of muscle death and replacement within the period when T-wave alterations were occurring in the electrocardiogram. It appears logical, therefore, to conclude from the clinical, pathologic, and electrocardiographic findings that necrosis and early fibrosis of the bits of intramural tissue contributed to the T-wave records obtained during the period. Similar areas of well-vascularized scar are found in the apical and lateral regions of the heart wall (figure 11). T-wave variations were occurring also in leads AVL, AVF, and V_{4-6} during the last weeks of electrocardiographic observation.

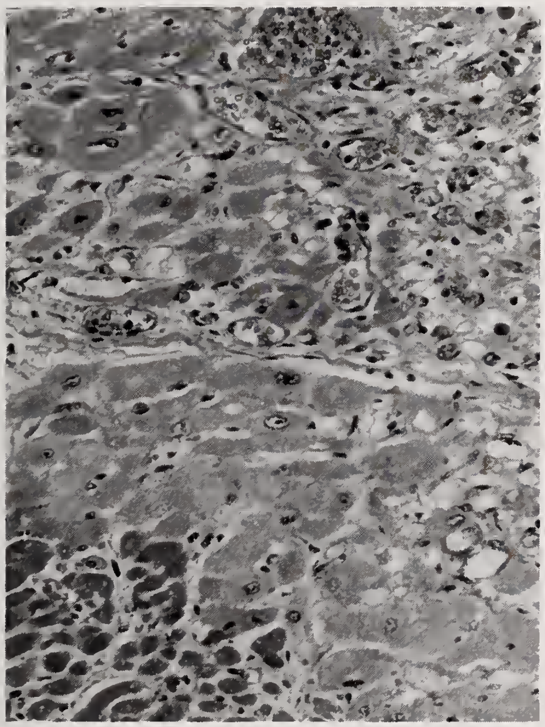

FIG. 11. Case 7. Apex. Vascularized scar, upper right; viable muscle in lower central portion; darkly staining, freshly necrotic muscle at lower left.

Necrotic muscle cells, indicated by dark staining, sometimes with polymorphonuclear infiltration between the dark-staining fibers, were scattered throughout the heart muscle. The age of necrosis of these cells is probably measured in days to 1 or 2 weeks. Also scattered throughout the heart are groups of muscle cells having the appearance of viability. Intermingling of well-vascularized scar, recently necrotic cells, and cells with the appearance of viability is a striking pathologic feature, with the intermingling even more intimate in some sections of the heart muscle than in the published photomicrographs. These 3 stages are represented within 1 small microscopic field. This case furnishes an excellent illustration of the fact that the muscle degeneration dependent upon arteriosclerotic coronary artery disease may be microscopic bit by microscopic bit, sometimes with bits of similar pathologic characteristics scattered simultaneously throughout a considerable portion of the heart. Even the final fresh necrosis, widespread as it was, did not in this case eliminate cells with the appearance of viability; some are evident in practically every microscopic field.

DISCUSSION

The problem of the so-called "nonspecific" T-wave changes continues to be of importance to physicians and patients. The wide range of time intervals which may occur between the first awareness of abnormal findings and the occurrence of unmistakably disabling or fatal disease is a factor contributing to the difficulty of accurate assessment. Wilce[1] commented, "The interpretation as normal of all who can successfully engage in practical competition without dropping dead is widely accepted. . . .The capacity of some diseased or inferior hearts to take punishment in sport or work is tremendous." The capacity, however, may not continue for the Biblical 3 score years and 10. Failure to recognize and properly define the limitations or to take corrective steps may be of major importance in terminating life sooner than need be.

The extensive range of possible causes for T-wave abnormalities is another factor contributing to the difficulties of accurate diagnosis of the cause of the T-wave abnormalities. I have electrocardiographic records on a patient in whom a single dose of 0.2 Gm. of quinidine sulfate produced for several hours a lowering, flattening, and notching of T waves indistinguishable from those described earlier in this paper. The *American Heart Journal* for the single year 1946 carried articles recording T-wave alterations in many conditions. These range from phosphorus poisoning,[2] antimony treatment for schistosomiasis,[3] infectious hepatitis,[4] scrub typhus fever,[5] through mumps[6] and upper respiratory infections,[7] to eating a meal.[8] This gamut of possible causes indicates that caution must be used in putting an interpretation upon the significance of T-wave abnormalities.

Shortness of breath, as it occurs daily in the individuals of a community, is on a physiologic, healthful basis in an overwhelming proportion of instances. But this known fact does not lead to a light disregard of the symptom. Neither are T-wave abnormalities to be lightly brushed aside because not every instance is caused by serious myocardial disease.

The frequently transient character of T-wave abnormalities has sometimes stimulated inappreciation of their possible import. The duration may vary from seconds to years. The fact that Q waves may also be transient is illustrated in the case report (S. R., figure 2-B) given earlier in this paper. Pappas[9] found 14 abnormal ventricular complexes returning to normal out of 742 cases of myocardial infarction treated in the years 1949–55. Sodi-Pallares[10-a] cites the study of Zuckermann et al on the disappearance of the Q wave in a dog with infarction caused by ligation of the anterior descending coronary artery. Transfusion of defibrinated blood 6 hours after ligation caused an improvement of blood pressure and a disappearance of the Q wave. Bleeding the animal then caused a drop in blood pressure and reappearance of the Q. Their illustration shows little alteration of the abnormal T wave throughout the time that the Q wave was caused to disappear and reappear. The maneuver obviously caused a recession of the worst phase of muscle-cell damage, affecting depolarization, without bringing tissue recovery sufficient to improve the repolarization record.

It is now and always will be necessary to recognize and deal with episodes of massive myocardial damage giving rise to Q waves. As understanding progresses of ways to treat patients with arteriosclerotic coronary artery disease, it becomes more and more important to recognize the earlier evidence of the disease. Finding T-wave abnormalities presents such an opportunity.

T-wave variations are the result of metabolic alterations in the myocardial cells affecting the formation and conduction of electrical current in the post-contractile recovery, or repolarization phase, of the heart contraction cycle. Abnormalities in the recovery process may be brought about by factors insufficient to alter the depolarization process as recorded in the QRS component of the ECG. Sodi-Pallares[10-b] states, "Changes of this kind . . . are called primary because they are not dependent on the direction or the magnitude of activation."

T-wave negativity in the precordial locations where positivity is normal is explained by Sodi-Pallares[10-c] as follows: "When the recovery process starts at the subepicardial muscle, the T wave is positive in the precordial leads. If, however, there is an ischemic area in this portion of the muscle, the beginning of recovery is so delayed that recovery of the subendocardial muscle may begin before that at the subepicardium and therefore precede the former. The recovery process, in other words, follows the same path as that pursued by the activation wave (first the subendocardial muscle and then the subepicardial muscle), thus producing inversion of the T wave."

Sodi-Pallares[10-c] states further, ". . . an ischemic zone which does not reach either surface is electrocardiographically silent."

Reconciliation of the principle just quoted, with the occurrence of T-wave abnormalities in the last case record given (Mrs. A. P.) at a time when multiple areas of myocardial degeneration and early fibrosis, microscopic in size, were occurring, is gained with the knowledge that with the multiplicity of the microscopic areas of muscle degeneration and replacement, some occurred at the subepicardial surface.

Ischemia is not always followed promptly by visible structural changes. Bayley and Monte[11] reported on a dissecting aortic aneurysm which led immediately to local myocardial ischemia by direct compression of the first segment of the right coronary artery. ECG's showed T-wave changes as striking as those seen in myocardial infarction, and lasting for 2 weeks before death occurred. No structural degeneration of the cardiac tissue was recognized on microscopic study. All coronary arteries, except for the compressed portion of the right, were normal.

Bayley and LaDue[12] produced subtotal occlusion of a coronary artery of a dog by increasing, in 8 distinct stages, the tension on an elastic band looped about the artery. Lowering and notching of the peak of T was the electrocardiographic effect of the first stage. Then followed in succession further lowering of T, inversion of the terminal portion of T, complete and deepening inversion of T, then a sharply downward direction of ST merging into the descending limb of T. The authors emphasized the importance of the early recognition of evolving coronary artery disease, and pointed out that electrocardiographic findings might furnish the only early evidence. Bayley, LaDue and York[13] stated clearly, ". . .the ischemic T-wave changes constitute the first stage in electrocardiographic evolution of myocardial infarction, as well as the last transitory phase."

According to Sodi-Pallares,[10-d] "The electrocardiographic changes associated with attacks of angina pectoris do not always disappear when the pain subsides. I have observed some cases in which evidences of subendocardial injury persisted for several weeks. Such instances seem to represent transitional forms between the typically transient anginal picture and that of true myocardial infarction. The clinical and electrocardiographic variations of these forms which do not fit into our usual ideas of angina nor those of infarction are quite numerous and merit a more careful and extended investigation." The author has been impressed for many years with the frequency of changing T waves noted in his study of patients. The case reports given earlier in this paper are only a small fraction of the numbers encountered.

Schlesinger and Reiner[14] called attention to microscopic areas of degeneration which they term "focal myocytolysis." These lesions replaced up to an estimated 38 per cent of ventricular muscle in specimens they studied. They[14-a] detected "the pattern of the lesion incorporated in a large territory of myocardial infarction. This is interpreted as a sudden deterioration of a borderline metabolic imbalance, resulting not only in secondary infarction of foci already embarrassed by focal myocytolysis, but also in infarction of the adjacent, previously normal myocardium." The small degenerative lesions were found also at the border of large infarcts, at the rim of miliary infarcts, and in hearts without large or miliary infarcts.

The lesions described by Schlesinger and Reiner are much like some of those shown in the photomicrographs of the patient Mrs. A. P. In the case of this patient, T waves were changing during the period when the lesions were forming. The description of the microscopic lesions incorporated into larger infarcts also fits into the case record of Mrs. A. P., who shows the areas of scar tissue surrounded by a large, acute infarction of only a few days' duration. Small, new degenerative lesions at the periphery of an infarct, as described by Schlesinger and Reiner, may have produced the T-wave alterations occurring in the tracings obtained from Miss S. R. as she attempted to resume physical activity after partial recovery from an infarction sizable enough to cause a Q wave in the tracings. If cells at the periphery of the infarct were barely existing with the blood flow available through vessels of restricted lumen when the patient was at rest, and increased physical activity of the patient caused a greater demand for oxygen and other metabolic agents in the heart muscle, those cells in the lesser state of nutrition might degenerate sufficiently to cause a T-wave abnormality due to temporary ischemia, or of deterioration past the point of recovery.

The fact that myocardial cells in a marginal state of nutrition may be quickly susceptible to a change of environment is illustrated by the alteration of T in the cycle following a premature systole. Levine, Lown and Streeper[15] give excellent examples of this as found in patients with known severe heart disease. If 1 premature, relatively ineffectual contraction of the heart can be the deciding factor to cause an abnormal electrical recovery of myocardial cells receiving a limited blood supply, it is probable that slightly increased physical activity of the individual may also produce metabolic changes in myocardial cells of borderline health, leading to alteration of the T waves.

Gross[16] demonstrated that blood flow from the right coronary artery distribution system encroached upon the territory supplied posteriorly by the left coronary artery, and that anteriorly branches from the left invaded territory supplied by the right coronary artery. The interventricular septum and bundle of His are supplied from both right and left systems. Gross' specimens showed rich interlacing anastomoses in every part of the heart muscle, causing an area of infarction to be smaller than the area primarily supplied by the blocked vessel. Anastomoses were scarcely evident in early life. They became obvious in the fourth, and more and more rich in the fifth, sixth and seventh decades. Gross cited the case of a woman in the eighth decade with no history of heart trouble. The right coronary artery was completely obliterated without obvious infarction of the heart muscle. Further studies of anastomoses, and of arterial closure without major infarction, have been presented by Blumgart, Schlesinger and Zoll.[17]

These examples prove that collateral circulation is available in the coronary systems. Proof of this is also afforded by the fact that the portion of a coronary artery distal to a closure remains open. If no blood entered the vessel distal to the block the artery would cease to function, collapse, and fibrose.

Holman et al[18] present a group of cases with collections of foam cells in atheromatous plaques of coronary arteries. They discuss the possibility of a "metabolic tide" causing foam cells to accumulate in the plaques and indicate that the foam cells, through (1) their own mass, (2) increased filtration or imbibition of fluid or lipid, (3) increased local synthesis of lipid, (4) decreased outflow of fluid or lipid, or (5) any combination of these, may narrow or block the lumen of coronary arteries, and thus contribute to disability or death of the patient. They note the total absence of foam cells at any point in the arterial tree, the absence of myocardial infarction, and a remarkably thin intimal layer of the coronary arteries in studies of patients dying from inanition and infection in the Dachau prison camp of Germany at the end of World War II.

Morgan[19-a] states, ". . .coronary arteriosclerosis is not merely a progressive disease, . . .it progresses in a series of episodes rather than gradually." He further declares,[19-b] "Once an atherosclerotic plaque has undergone degeneration, small hemorrhages into the softened area from the ill-supported vessels at its margins are an almost constant feature. These extravasations are no mere terminal event, and the frequency with which they occur is indicated by the presence of several small hemorrhages in a single deposit, clearly of different age, though all recent enough to be identifiable microscopically. It is, therefore, safe to assume that the average atheromatous abscess has been subjected to repeated microhemorrhages over a long period, and that its pultaceous contents are partly haemic in origin." The hemorrhages might simply enlarge the mass and diminish the size of the lumen in varying degrees, might damage the intima by leakage and initiate a secondary thrombosis in the lumen, or might erode the roof of an atheromatous abscess causing the contents to rupture into the lumen and initiate a secondary thrombosis. Morgan submits photomicrographs of tissues found to have just such lesions. He[19-c] summarizes, ". . .one may say that the small hemorrhages are important because of the cumulative effect of their degenerative products, while the larger ones are important because they may cause occlusion or initiate thrombosis."

It may be worthwhile to speculate that in some instances, such as Mr. W. B., the T-wave changes are the result of myocardial degeneration secondary to a lessened blood supply due to such hemorrhages into an atherosclerotic plaque, with resultant narrowing of the lumen. If such is the case and early discovery of the T-wave changes causes the patient to be put at partial rest, this would reduce the chance of further subintimal hemorrhage, thereby preserving as much of the lumen as possible. It would also allow time for collateral circulation to develop before putting much demand upon the heart muscle. These factors, in turn, might forestall some irretrievable tissue destruction in the nature of the focal myocytolysis described by Schlesinger and Reiner, might postpone the occurrence of massive infarction, and might diminish the size of a major infarction.

Blumgart et al[20] report on animal studies that "These observations afford evidence that temporary ischemia may cause irreversible myocardial changes, and if the ischemia be of sufficient duration, may cause myocardial infarction of the same character and degree as that which occurs after permanent and complete occlusion of an artery." Referring to people, they[20-a] go on to state, "In several of the cases studied, infarction was undoubtedly favored by the fact that these patients did not rest after the onset of occlusion, but continued to work or persist in other activity, thereby increasing the degree and duration of ischemia."

Price and Janes[21] report in detail upon a schoolmaster of 55, entering a hospital because of 3 weeks of increasing angina of effort, and observed there until death 3½ months later. The first ECG showed T iso-electric in lead 1, low in lead 2, and with just detectable terminal inversion in lead 4. The patient had several attacks of pain, accompanied by T-wave inversions in leads 1 and 4 lasting from a few to several days. An attack of severe pain 3 weeks before death was followed the next day by a Q_3, a tiny Q_4, notching of R_2, slight displacement of ST, and inversion of T in leads 2, 3, and 4. Pathologic study showed focal disseminated fibrosis in the left ventricular muscle, and a large recent subendocardial infarct extending from the base of the left ventricle to the apex, on the posterior wall, into the interventricular septum, and on to the anterior wall, intramurally. The coronary arteries were markedly narrowed but not occluded. This is an instance of T-wave changes signaling muscle damage severe enough to cause focal disseminated fibrosis, similar to that shown by Mrs. A. P., reported upon in this paper.

Dressler et al,[22] in a review of 1,000 ECG's from 333 hospital patients, note that "When heart disease is present, notching of T is often observed in the limb leads and is even more frequent in the chest leads. It occurs in a great variety of pathological conditions, most often with coronary insufficiency and/or left ventricular hypertrophy. Notching of T is observed under the same conditions as inversion of T. Both features of T may occur in the same lead either simultaneously or in serial tracings in the evolution of a pathological condition. . . .Slurred, flat-topped, and triphasic T waves are closely related to notched T waves and have the same meaning."

It is of importance and value to the patient that episodes of myocardial degeneration sometimes referred to as "minor" be identified and treated. The purpose is to prolong comfort, lengthen life, and extend useful existence. Finding T-wave abnormalities, particularly those undergoing evolution, offers a useful factor for diagnosis and treatment.

CONCLUSIONS

Electrocardiographic T-wave abnormalities—lowering, flattening, notching, or inversion—reflect a metabolic disorder of the heart muscle. In some instances this disorder may not be accompanied by visible structural changes; in others the changes may be visible to the aided or unaided eye.

T-wave abnormalities may be the first objective evidence of coronary artery disease which at some future date causes the death of the patient.

T-wave abnormalities may precede transiently and at variable time intervals the development of a large infarction in the area of the heart muscle giving rise to the abnormality of the T wave in the first instance. This is evidence that so-called nonspecific T-wave changes may be of distinct value in forecasting possible or probable future developments and thereby afford to patient and physician a chance to take delaying or remedial measures in so far as such measures are available.

T-wave abnormalities found in a single tracing may be unaccompanied by symptoms or by other physical signs, yet be evidence of an acute degenerative process in the myocardium. Serial tracings are a feasible method of determining if the pathologic process is undergoing evolution. An assumption that the process is inactive because no symptoms or other physical signs are present may be completely erroneous.

The abnormal or changing T waves may be the only electrocardiographic abnormality accompanying individually minor but collectively major structural deterioration of the heart muscle.

Electrocardiograms recorded early in adult life and chest leads in addition to the commonly used 6 positions may be of great help in establishing evidence of abnormalities.

Rest may be followed by improvement, and slight physical activity may be followed promptly by deterioration of the T waves in localized portions of the myocardium, even though no symptoms accompany this evolution of the process in some patients.

Rest at judiciously chosen times offers the possibility of reducing the amount of damaged heart muscle replaced by scar tissue, whether the damaged tissue be in a major transmural infarction, a small or miliary infarction, or in focal myocytolysis. Knowledge of T-wave alterations may be helpful in making the best choices.

Rest may be beneficial in the following ways, by (a) lowering the rate of metabolism in the myocardial cells so that more of them may survive an acute degeneration due to temporarily decreased blood supply; (b) allowing more time for development of the collateral circulation; and (c) decreasing the likelihood of extravasation of blood into an atheromatous plaque and thereby better preserving the lumen of an atherosclerotic coronary artery.

BIBLIOGRAPHY

1. Wilce, J. W.: Am. Heart J., 1943, **25**, 613.
2. Dathe, R. A., and Nathan, D. A.: Ibid., 1946, **31**, 98.
3. Beaser, S. B., and Rodriguez-Molina, R.: Ibid., 1946, **32**, 634.
4. Dehn, H., Feil, H., and Rinderknecht, R. E.: Ibid., 1946, **31**, 183.
5. Hollander, G.: Ibid., 1946, **31**, 481.
6. Felknor, G. E., and Pullen, R. L.: Ibid., 1946, **31**, 238.
7. Young, D.: Ibid., 1946, **32**, 383.
8. Simonson, E., and others: Ibid 1946, **32**, 202.
9. Pappas, M. P.: Brit. Heart J., 1958, **20**, 123.
10. Sodi-Pallares, D., and Calder, R. M.: New Bases of Electrocardiography. St. Louis: Mosby, 1956, (a) p. 204; (b) p. 510; (c) p. 531; (d) p. 213.
11. Bayley, R. H., and Monte, L. A.: Am. Heart J., 1943, **25**, 262.
12. Bayley, R. H., and La Due, J. S.: Ibid., 1944, **28**, 54.
13. Bayley, R. H., La Due, J. S., and York, D. J.: Ibid., 1944, **27**, 164.
14. Schlesinger, M. J., and Reiner, L.: Am. J. Path., 1955, **31**, 443–59; (a) p. 447.
15. Levine, H. D., Lown, B., and Streeper, R B.: Circulation, 1952, **6**, 538.
16. Gross, L.: Boston M. & S. J., 1925, **193**, 1276.
17. Blumgart, H. L., Schlesinger, M. J., and Zoll, P. M.: J.A.M.A., 1941, **116**, 91.
18. Holman, R. L., and others: U.S. Armed Forces M. J., 1958, **9**, 12.
19. Morgan, A. D.: The Pathogenesis of Coronary Occlusion. Springfield, Ill.: Thomas, 1956, (a) p. 67; (b) p. 84; (c) p. 88.
20. Blumgart, H. L., Gilligan, D. R., and Schlesinger, M. J.: Am. Heart J., 1941, **22**, 387; (a) p. 386.
21. Price, R. K., and Janes, L. R.: Brit. Heart J., 1943, **5**, 134.
22. Dressler, W. (New York), Roesler, H., and Lackner, H.: Ibid., 1951, **13**, 496.

TOXEMIA OF PREGNANCY: SOCIOECONOMIC BACKGROUND*

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FOR THE PAST 3 decades we have been studying the problem of the toxemias of pregnancy. The enormous amount of effort and thinking that has been put forth by so many capable investigators should have been completely rewarding if only a single factor were the basis. The list of etiologic suspects is all-inclusive, the signs and symptoms are known, the alterations in the chemistry of the body are documented, and the histopathology is recorded. A specific "toxin" causing the "toxemia" has never been isolated. The developing syndrome, peculiar to the pregnant female, is broken when orthodox prenatal care is instituted, yet there is nothing miraculous in accepted antenatal care.

In our own geographic area, we have investigated seasonal variations, rainfall, endemic and other diseases, dietary habits, and broad socioeconomic factors. The latter 2 are the chief variables and actually are closely related. The "ill clothed, ill housed, and ill fed" are more often the medically ill and the medically inarticulate; in this group we find the toxemias of pregnancy.[1]

The term "socioeconomic conditions" is immediately recognized. However, the varied influences, currents, colorings, genesis, and implications are sometimes difficult to document.

The tenant farmer of the South is the peasantry of the South. Restriction in cotton and tobacco production, automation in industry, and failure of the farmer in producing staples and trucking products have made such farming even less attractive.

A study of the maternal mortality statistics by states and counties of the southeastern area immediately reveals that the high rate of morbidity and mortality is in large part in the nonwhite and in the rural white women. Chronic vascular diseases are more prevalent in this group. The diet is similar to a pellagra-producing diet. The patient and the patient's family are a great factor in preventable death.

The environment that predisposes to syphilis is just as important as the disease syphilis.

Economic and intellectual enlightenment is necessary before improvements can occur.

During a fairly protracted study of the dietary habits and blood chemistry of patients who exhibited varying degrees of toxemia we found a definite parallel in the incidence of this complication and pellagra. This coincidence existed throughout the Southeastern United States. These data have been recorded.[1] The pertinent data are contained in table 1.

TABLE 1
Incidence of Toxemias (Duke Hospital)
1931–1946

Total deliveries	11,000
Toxemias of all types	1,160
Total maternal deaths (all causes)	206
Deaths of pregnant patients with hypertension	54
Deaths of eclamptic patients	35
Total deaths with elevated blood pressures	89
Percentage of total deaths	43.2

	White	Nonwhite
54 hypertensive death group	25	29
35 eclamptic death group	14	21

In 35 deaths from eclampsia 19 patients had not seen a doctor, 9 had made 3 visits, and only

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* Presented before the Conference on Toxemia of Pregnancy, November 25, 1958, during the 27th ANNUAL SCIENTIFIC ASSEMBLY of The Medical Society of the District of Columbia.

1 had "fair" prenatal care. Thirty-one patients had from 1 to 28 convulsions before admission. From the time of the first convulsion until admission, from 1 to 10 hours, 7 patients were transported over 60 miles and 21 over 25 miles, and only 3 were local residents.

Six patients had been delivered at home, and 8 died undelivered. The time from admission to delivery varied from 1 hour to 7 days. The time of admission until the death of the patient was from 15 minutes to 20 days.

The similarity between their diets and the diet which Goldberger and Wheeler used in producing pellagra in convicts in Mississippi is remarkable. An estimate showed this to be a 2,900 calorie diet consisting of salted fat meat, field peas, rice, hominy, grits, cane syrup, brown gravy, lard, and corn meal, which shows a diet deficient in vitamin G (B_2), and also A, C, and D and iron, calcium, phosphorus, and complete proteins.

During a 4-year period 160 females were treated for pellagra in our hospital, and during the same period of time there were 2,120 patients delivered in affiliated hospitals, and 174 patients had toxemia of late pregnancy.[2]

In 1937 we[3] analyzed in some detail the progress of patients who were delivered in an affiliated maternity home for unwed mothers. These patients came from the rural districts, as a rule were single and arrived at the hospital in a poor state of nutrition, due perhaps to the worry of being pregnant, poor home conditions, eating sparingly in the hope of not gaining weight, and not having received medical attention. The home was operating on a small budget and had difficulty in supplying the actual food and accessory factors that might improve and overcome this condition. An analysis of 200 cases from 1931 to 1933 records showed an alarming incidence of toxemia. Thirty patients developed symptoms and signs of toxemia—headache, epigastric pain, edema, scotomata, general malaise, associated with a rise in diastolic blood pressure above 90 and a rise in systolic pressure above 140, and albuminuria, and of these, 16 patients showed moderate to marked pitting edema, further elevation of blood pressure and albuminuria, and fell definitely into a pre-eclamptic group. Five patients had eclampsia, 4 had severe generalized convulsions before delivery, and 1 developed convulsions 24 hours following delivery.

It was noted that by far the largest proportion, estimated as 70 per cent, of the protein was furnished by cereals and only approximately 30 per cent, by meats, milk and eggs. It is conceivable that, while the total amount of protein was adequate, the quality of the protein, or the quantity of the type of protein best suited for replacement of maternal tissue and blood proteins was not adequate. This possibility was borne out by the discovery of the relatively low plasma protein values shown in the blood estimates. Also, on the basis of our knowledge of the group of the population from which most of the subjects came the dietary before admission to the hospital of these patients was very likely to have been deficient both quantitatively and qualitatively.

In our clinic patients we found a consistent hypoproteinemia, and such states may affect the level of the fats of the blood.

Our patients with normal pregnancies had low total proteins and followed the usual course of a gradual decline as pregnancy proceeded, with a slight increase toward term. The albumin remained practically constant. The globulin showed a slight drop toward term. Immediately after delivery there was a slight drop in total protein and albumin with a slight rise in the globulin. The behavior of the albumin and globulin is noteworthy in that it is in disagreement with reported findings.

The procurement of food is certainly related to dollars, and the selection of food is dependent upon intelligent habits.

The subsoil of toxemia of pregnancy is, paradoxically, developed by improper dietary habits, usually the lack of certain vitamins, minerals and proteins, and by improper fluid intake and output.[4]

As soon as one sees a pregnant patient and starts any regulatory regimen, that is, prenatal care and supervision, no one will stand by and allow a patient to develop progressive toxemia. The nearest approach to a control study is observations on the patient who is admitted with evidence of toxemia and who, under proper measures, is stabilized but for some reason insists on prematurely leaving the hospital undelivered. The return to familiar domestic and dietary habits invariably leads to readmission, usually with more alarming symptoms.

In North Carolina in 1914 there were 71,931 live births and 524 maternal deaths, while in 1955 there were 116,206 live births and only 100 maternal deaths.

There are now over 1,700 maternal death records in the files of the Committee on Maternal Welfare, over a thousand of which have been scrupulously studied. All of the larger categories have direct association with socioeconomic situations.[5] Table 2 gives an analysis of the first 1,000 deaths studied by the Committee.

TABLE 2

Analysis of the First 1,000 Maternal Deaths in North Carolina

Cause	Number	Percentage
Toxemia	264	26.4
Hemorrhage	259	25.9
Embolism	74	7.4
Infection	73	7.3
Cardiac disease	64	6.4
Anesthesia	25	2.5
Other obstetric	103	10.3
Nonobstetric	112	11.2
Insufficient information	26	2.6

The 264 deaths (26.4 per cent) from the toxemias and renal diseases simply confirm what has been written over the years regarding this miserable, preventable complication which is rampant in this area. Equally significant, the toxemias were thought to be a contributing factor in 93 cases in which the primary cause of death was listed in some other category. The 73 deaths from "puerperal infection" also reflect the influence of poverty, malnutrition, anemia, and the inability of the "medically inarticulate" to avail themselves of even obvious and ready aid. They also point to the increasing abortion rate in the nonwhite.

The Committee on Maternal Welfare of the Medical Society of the State of North Carolina has pointed out that difficulty in hospitalizing the indigent patient is a major factor in maternal mortality, particularly in toxemia and hemorrhage. These 2 complications accounted for 59 per cent of the maternal deaths in the state in 1955 (toxemia, 32 per cent; hemorrhage, 27 per cent).

Uniformly good obstetrics cannot be given these women when such care is measured in terms of professional service alone. Once these women are admitted to a recognized hospital, their treatment is comparable in competency to that of other localities.

We were interested in the major cause of death in the so-called "indigent" and "private" groups (table 3). Some of the data are of such small totals that, statistically, they are nonconclusive. Toxemias, hemorrhage, and infection stand out in the indigent group. Heart disease, to a lesser degree, comes in this category. The relative number of deaths from embolism and anesthesia is small, but the majority fall in the private group. It is difficult to disassociate embolism from infection, and it is extremely difficult definitely to certify this as the cause of death. However, we did find a relative increase in the "private" group. The anesthesia deaths were carefully scrutinized.

TABLE 3

Maternal Deaths

Indigent-Private Patient Ratio	
Toxemia	
Hemorrhage	
Infection	2:1
Private Patient-Indigent Ratio	
Embolism	48:26
Anesthesia	15:10

Hospital beds are sociologic evidence of interest, and pay for hospital care certainly is part of the economy. North Carolina is the largest rural state in the Union and has the second largest Negro birth rate and fourth largest Indian population. In 1924 there were 2,186 hospital beds in the state, in 1947 there were 9,636, and at present there are 13,700[6] (table 4).

TABLE 4
Growth of Hospital Facilities in North Carolina

Year	Hospitals and Center	Beds	Blood Banks
1924	71	2,186	0
1947	115	9,636	9
1952	248	13,700	52

In 1924 the state was forty-fifth in doctor-population ratio, forty-second in hospital bed population percentage, and forty-first in maternal mortality. At present the doctor percentage has increased to thirtieth, and the hospitals and health centers have increased 71 and 35 per cent, respectively. All of these new units have accommodations for maternity patients, and the maternal mortality position has improved to thirty-fifth in the list of states.

Attendance by the midwife and the difficulty in attending to the midwife are problems that weigh heavily in obstetric morbidity and mortality and certainly are part of the broad category of "socioeconomics."

During the years 1946 through 1950 there were 532,310 live births. The midwife delivered 2.7 per cent of white and 35.9 per cent of nonwhite mothers in North Carolina. Though we know of the large numbers of mothers cared for by these people, we are certain that we have not helped them and used them in a thoroughly intelligent manner. They are sensitive. They have unbounded confidence in their own ability, and any criticism or suggestion of criticism is likely to lead to sullenness, anonymity, or even chicanery. Our best approach is through the County Health Department.

The totals were sufficient to be statistically sound and the division into home, hospital, physician, and midwife deliveries gives interesting and helpful information (table 5). In North Carolina during the year's study there were 35,555 nonwhite deliveries, only 35 per cent of which were in hospitals, and the mortality rate was 21.7 per cent. In a large northern state there were 26,504 such deliveries, 96 per cent of which were in hospitals, and the mortality rate was 20.8 per cent.

TABLE 5
Comparison of Number of Nonwhite Deliveries by Physicians and Midwives in Four States and the District of Columbia (1949)

State	Percentage Nonwhite	Total Deliveries	Mortality (per 10,000 Live Births)	Delivery (Percentage)		
				M.D. at		Midwife
				Hospital	Home	
North Carolina	32.9	35,555	21.7	35.0	30.0	35 0
Mississippi	56.2	37,318	30.8	17.0	21.0	62.0
District of Columbia	41.3	8,190	8.5	97.0	3.0	0.0
Pennsylvania	7.5	16,861	16.0	91.0	9.0	0.0
New York	8.8	26,504	20.8	96.0	3.0	1.0

Since 1950 the number of licensed midwives has dropped from over 1,000 to 529.[6] These women are elderly, 60 to 80 years of age, and with practically no new permits being issued it is probable that in another 5 years there will no longer be any midwives in the state.

In 1953 10 per cent of the deliveries of patients in the state were delivered by midwives. Unlike many other states and foreign countries, our midwives were (and are) uneducated, poorly trained, and inadequately controlled. The licensing of midwives has been under the control of the individual counties since 1935. A good example of the general acceptance of the midwife's incompetence was demonstrated several years ago when the State Board of Health recommended that Grade C midwife permits be discontinued. The counties simply issued Grade B permits to all the Grade C midwives regardless of qualifications. Midwives consistently break all of the regulations without fear of reprisal.

The only consistent requirement for midwife delivery is a slip of paper signed by a physician stating that the patient seems all right for a home delivery. This does not even actually state that the patient has been seen or examined by a physician. A serologic test is required by law for every pregnant patient, and this report is frequently interpreted as a permit for a midwife delivery.

The majority of obstetricians in this region are a bit perplexed by recurring attempts at furthering the midwife. It could well be a matter of definition. The doctor load of obstetric patients in our area is not overwhelming. In our opinion, the utilization of time, effort, and money could be far better utilized in resident training, adequate instruction in the general practice training residency, and more and better labor room nursing.

Abundant critical data can be obtained more quickly from perinatal mortality studies than from maternal mortality studies. Most of the evidence is at hand, rewarding possibilities can be envisaged, and both physical and socioeconomic factors can be evaluated by capable workers with varied interests.

Donnelly[6] and co-workers have reviewed over 6,000 deliveries in the 3 medical school hospitals in North Carolina and have scrupulously studied in minute detail the case records of 279 perinatal deaths, of which 163 were fetal and 116 neonatal, a perinatal mortality of 4.5 per cent. These figures are statistically sound.

Socioeconomic factors which can be documented and usually accepted are race, father's occupation, mother's education, and hospital financial classification. In 1935 the perinatal mortality rate per 1,000 live births was 110 for nonwhite and 65 for white. In 1955 this had dropped to 65 for nonwhite and 33 for white. However, when age and parity were considered in covariant analysis, race was not a significant factor.

The fathers' occupations were divided into 3 groups, roughly: (I) professional people, managers, officials, etc.; (II) clerks, foremen, craftsmen, etc.; and (III) farm laborers, unskilled workers, etc. Group I rate was 60 per cent lower than the control, while Group III was 50 per cent greater than the controls.

The mother's education was evaluated in terms of years in school. The mothers who attended school 8 years or less accounted for 29.7 per cent of perinatal deaths, while the controls revealed only 16 per cent. The mothers who had more than a high school education, by comparison, showed a reverse distribution. The private patient group had a definitely lower figure than the service group.

If one relates the maternity mortality statistics of the United States to tabulation, it becomes immediately evident that the highest maternal mortality is in the areas of the highest nonwhite residents[7] (see table 6).

TABLE 6

Nonwhite Population in the United States and Each of Its Geographic Divisions

(Population figures as of April 1, 1950)

	Percentage
UNITED STATES:	11.0
South Atlantic	24.0
East South Central	23.0
West South Central	16.5
Middle Atlantic	7.0
East North Central	6.5
Pacific	6.0
Mountain	5.0
West North Central	3.5
New England	2.0

Yet when all factors are adjusted, there is little difference per se between the proneness of the white and nonwhite to toxemia and other socially preventable complications in pregnancy.

In the United States during the period of 1946–51, there were 12,923 major grants of governmental and private funds for medical research, totaling $135,000,000.[7] There were 6,634 recipients, 80 per cent receiving funds from 1 source only; 80 per cent of the grants were for less than $50,000. In the Southeast, 55 institutions received 1,086 grants for a total of $10,400,000, representing 13 per cent of the total funds. Ten states received 75 per cent of the total funds. North Carolina ranked fifteenth among the states and received between $1,500,000 and $2,000,000. Mississippi was the lowest group, receiving less than $100,000.

Of the total funds, only $1,795,000 was allocated to the vague category of "pregnancy and newborn." It is obvious that benefit to the pregnant female and the newborn would come indirectly from other studies in various other categories. However, little, if any, of these funds can be translated in terms of patient care.

Furthermore, if we consider the low figure for our area and the low grants to our separate states and relate these to our frightful morbidity and higher mortality during pregnancy and in the newborn, it is not remarkable that we at times appear unhappy with our progress in the solution of our problems.

To help patients avail themselves of competent care, we consider secondary highways, all-weather rural roads, communications of all sorts, improved farming methods, participation by city, county and state medical groups in maternal welfare programs, an available blood bank in every community, and other socioeconomic factors just as important to the patient's welfare as some professional certifying agencies. Developing, encouraging and assuring better maternal care should also be classified as "physician responsibility."[7]

BIBLIOGRAPHY

1. Ross, R. A., Carter, F. B., Lambeth, S. S., and Creadick, R. N.: Observations on pre-eclampsia, eclampsia and hypertensive vascular disease in pregnancy. South. M. J., 1948, **41**, 803.
2. Ross, R. A.: Relation of vitamin deficiency to toxemia of pregnancy. Ibid., 1935, **28**, 120.
3. Ross, R. A., and others: Study of certain dietary factors of possible etiologic significance in toxemias of pregnancy. Am. J. Obst. & Gynec., 1938, **35**, 426.
4. Ross, R. A.: Presidential Address: Late toxemias of pregnancy; number one obstetrical problem of South. Ibid., 1947, **54**, 723.
5. Ross, R. A.: Review of 1,000 maternal deaths in a rural state. Ibid., 1953, **66**, 1113.
6. Donnelly, J. F.: Public Health facilities in North Carolina. Bull. Maternal Welfare, May–June, 1956, **3**, 2.
7. Ross, R. A.: Maternal mortality. Omissions and commissions. Virginia M. Month., 1956, **83**, 45.

NEW CLINICAL CENTER STUDY ON SJÖGREN'S SYNDROME

The cöoperation of physicians is requested in a comprehensive study of Sjögren's syndrome recently initiated at the Clinical Center, National Institutes of Health, Bethesda, Maryland. The cardinal manifestations are keratoconjunctivitis sicca, diminished or absent salivation and/or salivary gland enlargement and rheumatoid arthritis. The purpose of the study is to define the clinical, histological and immunological spectrum of the syndrome. For this reason patients are sought who manifest only dryness of the eyes and filamentary keratitis or xerostoma, as well as those who manifest the entire syndrome. Patients with scleroderma, systemic lupus erythematosus or periarteritis nodosa complicated by Sjögren's syndrome will also be admitted for study.

Accepted patients will be studied for several weeks. A comprehensive and individualized therapeutic program will be instituted for each patient to include appropriate medication, physiotherapy, and supportive measures. Upon completion of their study, patients will be returned to the care of their referring physicians, who will receive a complete narrative summary. It may be desirable to arrange for occasional follow-up visits in some instances. These would supplement rather than substitute for visits to the patient's own physician.

Physicians interested in the possibility of referring individual patients should write or telephone Dr. Joseph J. Bunim, Clinical Director of the National Institute of Arthritis and Metabolic Diseases (Oliver 6-4000, Ext. 4181) or Dr. Kurt J. Bloch, Senior Investigator, National Institute of Arthritis and Metabolic Diseases (Oliver 6-4000, Ext. 2612).

CHLORZOXAZONE (PARAFLEX) IN THE TREATMENT OF SPASTICITY*

Preliminary Report

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ONE OF THE major problems encountered in the treatment of neurologic diseases is the management of spasticity. This problem is found in many conditions, including infectious and congenital, traumatic and degenerative states. The importance of a drug which specifically relieves skeletal muscle spasticity is twofold, namely, facilitation of physiotherapy and prevention of the development of painful muscle spasms and contractures

The earliest drugs used for this purpose included the various curare-like drugs. Their action was primarily on the myoneural junction. These drugs include d-tubocurarine, succinylcholine, and gallamine. They have a definite advantage in the application of muscle relaxation during anesthesia, but their margin of effective dosage and safety is low and they sometimes cause early respiratory embarrassment. Other marked disadvantages are that their duration of action is very short and that they require parenteral administration.

One of the newer agents found to have some application in the field of neurology was mephenesin. It was first introduced by Berger[1] in 1946 as a substitute for curare in light surgical anesthesia. It did not exhibit the side-effects of curare in causing respiratory paralysis. An oral preparation was used. However, it again was not as effective as the parenteral medication. It is noted that this drug acted in a different method from the curare-like drugs. The exact site of action has not been clearly delineated. However, studies by Wright[2] and others have shown that it does not block the myoneural junction in its response to acetylcholine and nerve stimulation. Spiegel[3] has shown that it has a definite effect on the electrical discharges of the hypothalamus and midbrain. It has been shown that it is the polysynaptic transmission that is chiefly affected, probably by a lowering of the potential of the nuncial cells. Mephenesin had some important disadvantages. It was limited severely in its duration of action and necessitated the intravenous route of medication for maximum effectiveness. This led to the search for other drugs.

In 1955 Basmajian[4] showed that chlorpromazine exhibited a centrally active musculoskeletal relaxant property. However, again there was the drawback that used orally it was far less effective than when given intravenously. It also had a short period of effective action and numerous side-effects.

The next significant step in the development of these medications was the introduction of zoxazolamine (Flexin).[5, 6] This medication proved effective with oral dosages over a longer period of time. Thus, 2 of the major disadvantages of earlier medications were overcome. However, there are some problems encountered in many patients, the chief of which is a variability in the ratio of absorption, which in turn makes the standardization of dosage an individual problem. Another difficulty encountered frequently is that the effective dosage is accompanied by many side-effects, including gastrointestinal distress, dizziness and occasional rash. Another side-effect includes a transient nephritic syndrome and the mobilization of urates in patients with gouty arthritis.[7] This may be a contraindication for its use in certain patients prone to develop urinary calculi as a complication of their neurologic disease.

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* Read before the Section on Neurology, Neurosurgery and Psychiatry of the Medical Society of the District of Columbia, June 5, 1958.

Several other drugs in this field of muscular relaxants have recently been introduced.[8] Among these are Robaxin (methocarbamol) (3-O-methoxy-phenoxy-2 hydroxypropyl-1-carbamate) and Sinoxar (2-hydroxy 2-phenylethyl-carbamate). These medications are carbamate derivatives and act in a similar fashion on polysynaptic pathways. They have no effect on the monosynaptic reflex arcs.

Chlorzoxazone (5 - chlorobenzoxazolinone) (Paraflex)[9] was tried because of its similar structure to zoxazolamine (Flexin). This drug is soluble in a strong basic solution as opposed to zoxazolamine, which is soluble in a strong acid solution. Its rate of absorption is more predictable. Studies by Burns have shown it to reach a peak blood level in 2 to 3 hours.[9] Comparable peaks in the blood of equal doses of Flexin and Paraflex demonstrate a definitely higher level for Paraflex, the latter being 2 to 3 times greater. It is metabolized in the liver and excreted as a glucoronide conjugate. There has also been noted an aminophenol metabolite of Paraflex in the urine. This occasionally may cause some concern because, if left standing, the urine may assume an orange or purple-red color. Paraflex has been used on animals and people up to 1 year without demonstrable changes on the hemopoietic system, liver or kidneys. The side-effects have been relatively few compared to Flexin. These have included dizziness, lightheadedness, drowsiness, overstimulation, nausea, constipation, heartburn and allergic skin reactions. According to present knowledge there are no specific contraindications to the use of the drug. It has been used in all age groups. It has been noted by some that there is a mild potentiation of the action of Paraflex when it is combined with certain tranquilizers.

METHOD OF STUDY

The present series of 12 patients represents a limited group of neurologic diseases, primarily affecting the spinal cord and midbrain centers. They have been on the medication for varying periods of time and at varying dosages. Blood counts, urinalyses, and liver studies were done on all patients. There were no changes in any of these studies during the period of observation, which ranged from 2 weeks to 12 months.

The diseases represented include multiple sclerosis (3 cases), cervical cord compression (4 cases), intrinsic spinal cord disease (3 cases), paravertebral muscle spasm (1 case), and parkinsonism (1 case). One of the patients already on Paraflex was studied by means of electromyography, and then the dosage was discontinued 5 days and the study repeated. Four patients were studied with the electromyograph and then placed on Paraflex and the study performed 5 days later. These electromyograms were done on a Grass Model III, 8-channel electroencephalograph. Monopolar electrodes were used in the hamstring and quadriceps muscles. A simultaneous recording of responses of the quadriceps and hamstring muscles was made. By this method a quantitative measurement of the degree of spasticity could be made by measuring the resting activity and the response of 1 lower extremity while the opposite lower extremity was either passively or actively stimulated.[10] This method was utilized because it approaches the clinical conditions in treatment to a greater degree

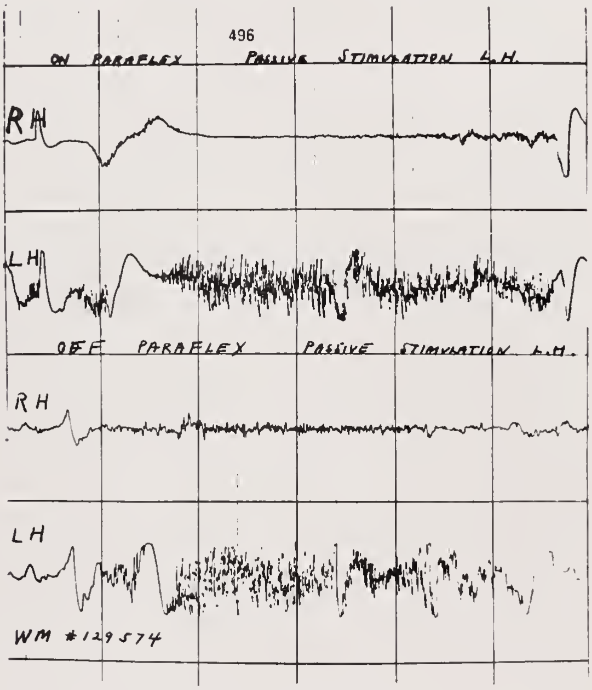
Others have used electromyography to study the efficiency of these medications but have limited their observations to a single intravenous dose. This does not allow for the absorptive rate of the drug to enter into the evaluation. It also gives an abnormal peak of concentration in the blood, and this is not seen in clinical practice. One observer (P.D.S.) examined all the patients at the beginning of therapy and did serial examinations. The patients were examined as to gait, degree of spasticity, strength and reflexes. They were also observed as to the presence or absence of flexor spasms. Independent of our evaluation, a physical medicine report was obtained on certain patients as to muscle strength and tone. Comments on functional capacity were also noted.

RESULTS

Improvement was noted in 8 patients while on the medication. This consisted of a reduction in severity and frequency of flexor spasms in 2 cases, and in another case adductor spasms completely disappeared. There was complete disappearance of paravertebral spasm in 1 case and marked improvement in another.

Spasticity improved in 10 cases. The results were graded from fair to excellent. The response to spasticity apparently was not related to the oral dosage, since an excellent response was noted with 125 mg. 3 times a day in 1 case, while a dosage of 500 mg. 4 times a day produced only fair results in another. This result in the latter case was further enhanced by the addition of meprobamate (Equanil), 400 mg. 3 times a day. Decrease in spasticity was noted by an objective improvement in the gait of 6 patients. In the other 4 patients, who were limited to a wheelchair or bed, spasticity was noted to be decreased on serial examinations. In all the patients there were no changes in the deep tendon reflexes noted while on the medication.

The electromyographic tracings demonstrated a decrease in spasticity while on the medication. This study is not quantitative nor has it been completely standardized. However, it was noted that with passive flexion there was a definite decrease in the crossed synkinetic response while on the medication (figure 1). Voluntary flexion revealed a similar but less decrease. There was little change in the resting background muscle activity noted. This type of study requires further development, but it may prove to be a valuable tool in the clinical evaluation of these medications.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ON PARAFLEX PASSIVE STIMULATION L.H.
RH
LH
OFF PARAFLEX PASSIVE STIMULATION L.H.
RH
LH
WM #129574

FIG. 1. Monopolar recordings from needle electrodes in left and right hamstring muscles. This demonstrates the recording after 10 days of treatment with Paraflex. There is passive stimulation of the left hamstring muscles (LH lines). RH demonstrates the reaction in the right hamstring muscles. Upper half done while patient was on the medication. The difference in the crossed synkinetic response can be seen by the difference in amplitude of the right hamstring recordings.

The chief side-effect noted was that of a subjective weakness in 3 patients. This was not substantiated by objective examination. This may explain why subjective responses were better than the observed objective response. There was 1 patient who complained of subjective vertigo. Drowsiness was not noted in this study.

(*Continued on page 535*)

THE POSTOPERATIVE USE OF DEMEROL-LOTUSATE TABLETS IN ORTHOPEDIC SURGERY

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THE TRADITIONAL medication for relief of pain following surgery has been a routine order for morphine, given every 3 to 4 hours for 2 to 8 days. In the past several years recognition has been given to the complications resulting from the indiscriminate heavy use of opiates. These include the higher instances of pulmonary complications due to the respiratory depression induced by frequent dosages of morphine and other opiates, bladder atony with necessity for frequent catheterization and possible resultant urinary tract infections, and postoperative intestinal atony with its attendant gastrointestinal disturbances and depression of appetite and fluid intake. In addition, the danger of narcotic addiction from injected opiates must not be overlooked. Although the incidence of addiction is relatively small, its correction is difficult and the complications are multiple.

In many instances the ward nurse administers the opiate for its sedative effect primarily rather than for relief of actual pain, especially after the first postoperative day. Often the doctor has left her no choice with no other order to relieve the anxiety and restlessness frequently manifested in the immediate postoperative period. This causes needless administration of opiates when a milder sedative drug could be suitably employed.

In an effort to reduce the need of postoperative injectable opiates, I have used an oral preparation of 100 mg. Demerol combined with 100 mg. of Lotusate (5-allyl-5-sec-butyl barbituric acid) in tablet form* to supplant the injectable narcotics after reaction from the anesthetic is complete, either immediately or when the stronger narcotic is no longer required. This combination of drugs has been used after 75 orthopedic operations of various degrees of magnitude. As soon as the postoperative nausea has abated the nurse is instructed to administer the oral preparation and, if it is tolerated, to continue its use on her clinical judgment for frequency of administration but in no case to administer more than 1 tablet every 4 hours. I have found the drug particularly useful when heavy sedation is required to allay an associated anxiety state in a tense individual with a low threshold of pain sensitivity. The anxiety-pain complex involved in pain interpretation[1] is best controlled by using both a sedative and an analgesic.

The wide clinical application of Demerol for the control of pain[2-7] and the effectiveness of Lotusate as a sedative[8] make the combination especially suitable for the orthopedic disorders with which I have been confronted. The fact that neither Demerol nor Lotusate[9] is prone to produce significant respiratory depression in the usual oral doses was of considerable interest when the use of the tablet combination was contemplated.

The drug has been very successfully employed in maintaining the desired degree of tranquillity after manipulation of shoulder joints for adhesive capsulitis. The involved arm is tied overhead for 48 hours, and during this time the patient usually becomes quite restless and disturbed because of the pain resulting from the manipulation and the uncomfortable position of the arm, with additional magnification from associated anxiety. The Lotusate has a definite calming effect, maintaining the patient in a drowsy, semi-somnolent state, greatly facilitating the retention of the desired overhead position of the arm. The 100 mg. of Demerol provides sufficient analgesic effect to relieve the pain resulting from the ruptured adhesions. In many instances 1 tablet every 6 hours suffices, whereas in some instances the frequency must be increased to every 4 hours for 2 to 3 days.

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* Material supplied by the Medical Research Department of Winthrop Laboratories, New York 18, N. Y.

The types of cases comprising this series include open and closed reduction of fractures, arthrotomies of the knee, arthroplasties of the hip with hip prostheses, fractures of the neck and intertrochanteric region of the femur, excisions of subacromial bursae and calcareous deposits in the tendinous shoulder cuff, laminectomies for herniated intervertebral discs, and spinal fusion surgery. In addition, several patients have received this medication in the conservative treatment of herniated intervertebral discs of the lumbar and cervical spine with leg or cervical traction. The Demerol component effectively relieves the associated pain, whereas the Lotusate facilitates muscle relaxation by relieving the anxiety and restlessness which also cause a considerable amount of voluntary muscle spasm. This permits more efficacious use of a muscle relaxant drug to achieve the desired amount of muscle relaxation in order to reduce the herniated intervertebral disc. With lesions of the cervical intervertebral discs Demerol-Lotusate's effect has been more prominent in relief of the nervousness and discomfort associated with the continuous use of a halter about the face and head and resultant restriction of movement, talking, eating, etc.

After joint surgery, such as arthrotomy of the knee for a torn medial meniscus or hip arthroplasty, early motion can be better instituted and accepted by the patient if pain is effectively relieved without serious impairment of the mental facilities and muscle coördination. Active and passive knee motion were begun on the first or second postoperative day after preparation with Demerol-Lotusate an hour or so previously. There was a definite increase in coöperation and acceptance of knee exercises by a patient sedated by a Demerol-Lotusate preparation, whereas after injections of morphine the patient's muscular coördination was impaired, with vertigo frequently preventing him from sitting on the edge of the bed to force his knee through the desired range of motion.

After excision of subacromial bursae, when shoulder motion should be begun early, Demerol-Lotusate relieved pain sufficiently to permit active coöperation, allowing active and passive abduction and rotation of the shoulder and arm.

Allergies to morphine are not uncommonly encountered. Frequently the allergy does not extend to Demerol or allied preparations, and such drugs can be substituted for morphine to achieve the desired sedative and analgesic effect. In the elderly patient morphine is particularly undesirable because of its respiratory depression and possible resultant cardiac irregularities. Following a fractured hip in such individuals Demerol-Lotusate has proved to be a very convenient medication with fewer hazards and complications.

SUMMARY

The use of an oral preparation of a combination of 100 mg. Demerol and 100 mg. of Lotusate has been found to be expedient and efficacious in the immediate postoperative relief of pain after various types of elective orthopedic surgery, closed reduction of fractures, and manipulation of joints. It is my belief that there has been a definite diminution in the instances of bladder and intestinal atony and respiratory depression. The oral preparation affords excellent relief of pain and the associated anxiety state frequently noted after surgical procedures. In the average case the drug can be routinely discontinued on the third postoperative day with only an occasional need, usually at bedtime, for the next 2 or 3 days. The amount of nursing care is diminished with the use of a noninjectable preparation causing less postoperative complications. The Demerol-Lotusate tablets can usually be substituted for morphine after the first 24 hours and occasionally after 12 hours following surgery.

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MASS OTOLOGIC SCREENING

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COMMUNICATION is essential in effecting the fulfillment of the mission of any branch of the Armed Forces. Inability to hear or to understand oral communication as a result of a malfunctioning auditory mechanism may result in inefficient operation. Therefore, for proper classification and assignment it is of considerable importance to determine the hearing level of Armed Forces personnel. Otologic screening of personnel may help bring this about.

To determine the feasibility of such a procedure for large groups of people, 2,722 R.O.T.C. candidates aged 18 through 26 years were given an otologic screening examination as part of their officer's candidacy physical examination. The screening included the following: obtaining an otologic history, administering a pure tone audiometric test, and examining the ears otoscopically.

In order to facilitate computation of the data, all information was properly coded and recorded on standard punch cards.

OTOLOGIC HISTORY

Personal and familial history of hearing loss, ear infections, tinnitus, and noise exposure was obtained. A positive history of noise exposure was taken to mean that the individual had been exposed to noise of 100 decibel level or greater (re 0.0002 dynes per sq. cm.) for a period of not less than 3 months. Positive responses to any questions were further investigated to determine their pertinency to the individual's hearing condition. Table 1 shows the results of the analysis of the data.

TABLE 1

Otologic History of 2,722 Subjects Aged 18 to 26 Years

Data	Per cent	
Race:		
White		87.4
Negro		12.5
Yellow		0.1
History of hearing impairment		2.1
History of tinnitus		2.2
History of ear infection		8.0
Family history of hearing impairment		7.6
Father	2.3	
Mother	1.3	
Brother	1.2	
Sister	0.7	
Uncle	0.6	
Aunt	0.8	
Grandfather	0.2	
Grandmother	0.5	
History of noise exposure		14.6

PURE TONE AUDIOMETRIC TEST

In order to determine the acoustic suitability of the audiometric testing environment a spectrum analysis was made. At no time did the ambient noise exceed 50 db (re 0.0002 dynes per sq. cm.) for the frequencies 500 through 8,000 cps (cycles per second).

The audiometric screening test was administered with 6 standard clinical audiometers. Of these, 1 was used for bone conduction testing, and this was done only when the air conduction threshold was subnormal.

A combined screening-threshold technic was employed for the test frequencies: 500, 1,000, 2,000, 4,000 and 8,000 cps. The subject was first screened at a level of 15 db. If the subject did not respond, an actual threshold for that frequency was obtained. When the threshold was greater than 15 db, bone conduction was also tested. The order of presentation of tones was randomized.

TABLE 2

Hearing Profile Procedure[1]

Hearing Profile	
H-1	Average loss for each ear: (a) At each of the frequencies 500, 1,000, and 2,000 cps, not more than 15 db loss. (b) At each of the frequencies 4,000 and 8,000 cps, not more than 30 db loss.
H-2	Average loss for each ear—not over 20 db (no loss greater than 25 db) at each of the frequencies 500, 1,000, and 2,000, and not over 40 db (no loss greater than 50 db) at each of the frequencies 4,000 and 8,000.
H-3	Average loss for each ear—not over 25 db (no loss greater than 30 db) at each of the frequencies 500, 1,000, and 2,000 cps, and not over 60 db (no loss greater than 70 db) at each of the frequencies 4,000 and 8,000 cps. When average loss for either ear is greater than this, average for other ear must not be greater than prescribed in profile 1.
H-4	Any loss greater than H-3. Unfit for Military Service.

TABLE 3

Results Obtained in 2,722 Subjects

Hearing Profile	Per cent
H-1	86.5
H-2	9.3
H-3	2.9
H-4	1.3

The results of the audiometric screening were grouped according to the Armed Forces hearing profile categories (tables 2 and 3). This profile system aids in establishing whether or not an individual can meet duty requirements from the standpoint of hearing.

OTOSCOPIC EXAMINATION

The otoscopic examination was carried out in the usual manner with the following results:

External otitis		16.8 per cent
Quiescent	16.4	
Severe	0.4	
Middle-ear disease		20.3 per cent
Evidence of active middle-ear disease	0.3	
No evidence of active middle-ear disease	20.0	

SUMMARY

A mass otologic examination was performed on 2,722 R.O.T.C. candidates. Each candidate received a complete otologic evaluation, audiometric test, and an otoscopic examination. Patients were examined at the rate of approximately 100 per hour. All data were recorded on IBM cards and were ready for processing upon completion of the examination.

It is interesting to note that approximately 13.5 per cent showed hearing levels greater than 15 db (sensation units) at 500, 1,000, and 2,000 cps or 30 db (sensation units) at 4,000 and 8,000 cps. It is reasonable to assume that this percentage would not have been detected by the whispered and spoken voice test now employed.

In cases of external otitis only 0.4 per cent were found to be severe, in contrast to 16.4 per cent which were quiescent. Correspondingly only 0.3 per cent were found to have evidence of active middle-ear disease, such as perforation, purulent discharge, etc. It is significant to note that approximately one-fifth of the population examined had had some middle-ear disease (scarring, adhesions, etc.) which was easily demonstrated in the otoscopic examination.

In conclusion, it can be said that the status of the individual hearing mechanism can be easily and rapidly established. The value of this examination procedure lies in the ability to determine future military assignment and to evaluate medical disability.

(*Continued on page 536*)

HEPATIC CIRRHOSIS DUE TO SARCOIDOSIS

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IN SARCOIDOSIS granulomata have been described in almost every organ system.[1] The liver is known to be involved in the majority of cases, but it is unusual that liver involvement is suspected clinically. Occasionally a case of sarcoidosis is described in which the liver involvement is extensive, and, in addition to the granulomata, there is an increase in periportal fibrous tissue sufficient to justify the diagnosis of cirrhosis. It is the purpose of this paper to report such a case of sarcoidosis and to discuss the possible implications of this unusual complication.

REPORT OF CASE

The patient was a 30-year-old Negro from British Honduras who was admitted to Walter Reed Army Hospital on September 16, 1956 because of first and second degree gasoline burns on the hands and legs, which healed without incident. His past medical history dated back to 1949 while in Japan, when he had an unexplained episode of chills, fever and myalgia for which he was hospitalized 34 days and from which he recovered completely. In April 1950 he sustained a traumatic transmetatarsal amputation of his right foot when a railway car wheel passed over his foot. He was hospitalized at Fort Sill, Oklahoma, where he required treatment for a urethral stricture and where he ran a febrile course. In an attempt to find a reason for these febrile episodes an axillary lymph node biopsy was done on October 4, 1950 and was interpreted as showing granulomatous infiltration consistent with the diagnosis of sarcoidosis. He was fitted with a prosthesis for his right foot and returned to active duty. During the following 2 years the patient had intermittent episodes of night fever and nocturnal diaphoresis, and in December, 1953 had 3 episodes of coughing up blood-streaked sputum. He lost approximately 16 pounds of weight over a 3-month period, and on January 18, 1954 was hospitalized at Fort Belvoir, Virginia, where physical examination disclosed for the first time marked hepatosplenomegaly. A right cervical lymph node biopsy was performed and again showed lesions consistent with the diagnosis of sarcoidosis (figure 1). He was treated for 1 month with cortisone with some symptomatic improvement. On April 15, 1954 he was transferred to Walter Reed Army Hospital. Again the liver was palpable 3 fingerbreadths below the right costal margin, and the spleen was also palpable. There were no spider angiomata or palmar erythema. There were many shotty posterior cervical nodes and 2 small axillary nodes on each side.

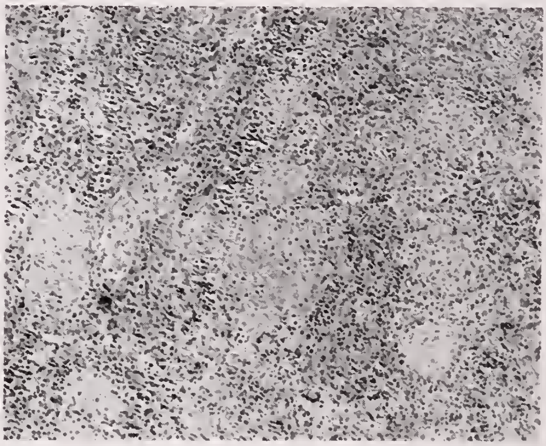
FIG. 1. Lymph node biopsy. Scattered throughout parenchyma of lymph node are many noncaseating granulomata characterized by epithelioid cells.

Laboratory investigation (table 1) was significant in that the bromsulfalein retention after 45 minutes was abnormally high (18 per cent), and the alkaline phosphatase was 33.7 Bodansky units. Gastric washings were negative for tubercle bacilli and fungi on smear and culture. A bone survey did not show bony lesions. An electrocardiogram was normal except for a PR interval which varied from 0.20 to 0.22 second. First and second strength PPD, histoplasmin, blastomycin, and coccidioidin skin tests were negative. An X-ray film of the chest was also negative. Esophageal varices were not seen on esophagoscopy. A liver biopsy was unsuc-

TABLE 1

Summary of Laboratory Results

	Apr. 19, 1954	May 17, 1954	Sept. 18, 1956	Oct. 4, 1956
Hemoglobin, Gm. per 100 c.c.	12.1			12.5
Hematocrit, per cent	40			36
Total white blood cells, per cu. mm.	9,400			6,750
Platelets, per cu. mm.	386,400			139,000
Serum bilirubin, total, mg. per 100 ml.	1.0	0.8	3.3	3.0
direct, mg. per 100 ml.		0.4	1.6	1.8
Cephalin flocculation, units	1	3	3	2
Thymol turbidity, units	1	2	1	2
Alkaline phosphatase, Bodansky units	33.7	52	50.8	32.7
Bromsulfalein retention, per cent retained after 45 min.	18	15		34
Total serum protein, Gm. per 100 ml.	6.3			7.7
Total serum albumin, Gm. per 100 ml.	3.0			3.6
Total serum globulin, Gm. per 100 ml.	3.3			4.1
Serum calcium, mEq./L.	4.2			4.7

cessful. The patient's sole complaint at this time was easy fatigability and anorexia.

The patient was retired from the service, subsequently worked occasionally, and considered himself to be in relatively good health. He did not believe that his abdominal girth had increased in size. There was no further nocturnal fever or hemoptysis. He was unaware of any jaundice, acholic stools, or dark urine. He lost weight, however, from 158 pounds at the time of retirement to 145 pounds when he was admitted to the hospital for treatment of his minor burns.

The patient denied any history of jaundice or hepatitis. He admitted to moderate use of whiskey on weekends for the previous 7 years.

On physical examination he was found to have icteric sclerae. There were small, shotty lymph nodes in the right posterior cervical chain and in the supraclavicular regions. The liver was palpable 5 fingerbreadths below the right costal margin, and the spleen was palpable 5 fingerbreadths below the left costal margin. There was no demonstrable ascites. The heart and lungs were normal.

Numerous laboratory examinations were performed (table 1). The significant findings were still the abnormal bromsulfalein retention of 34 per cent and the elevated alkaline phosphatase. Gastric washings were again negative for tubercle bacilli and fungi. Skin tests for fungi were repeated and were again negative, but the second strength PPD was now 1-plus. Serologic tests for brucellosis and tularemia were negative. A liver biopsy showed nonspecific, noncaseating granulomatous hepatitis with an increase in the fibrous tissue in the periportal areas constituting cirrhosis. There was, however, preservation of the normal architecture of the liver lobule with the relative positions of the central vein and portal triads remaining normal (figures 2 and 3). A Wood's instrument biopsy of the stomach mucosa showed 2 granulomata in the mucosa consistent with the diagnosis of sarcoidosis. A roentgenogram of the chest was normal. Esophagoscopy and barium swallow examinations failed to show esophageal varices. An electrocardiogram was entirely normal, with a PR interval of 0.18 second.

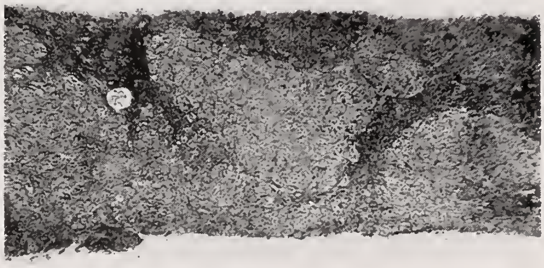

FIG. 2. Liver biopsy. Wide bands of fibrous tissue are noted to separate and infiltrate areas of liver parenchyma. Granulomata cannot be distinguished from normal liver parenchyma. At upper left is a portal vein on the edge of a band of fibrous tissue.

The patient was discharged and has not been seen again at this hospital. It is known, however, that at the present time he is still living and has not required further hospitalization.

COMMENT

The diagnosis in this case is considered to be sarcoidosis, with the full realization that this diagnosis was arrived at by the exclusion of other causes of granuloma formation. In spite of the weakly positive second strength PPD, repeated attempts to culture the tubercle bacillus were negative. Skin tests for the other fungus diseases were negative, as were repeated attempts to culture these organisms. In addition to the granulomata in the liver, in the stomach mucosa, and in the supraclavicular and axillary lymph nodes, the patient also had an increase in the fibrous tissue in the hepatic periportal areas. It is true that this patient had a history of a moderate alcoholic intake over the previous 7 years before this was discovered, and the contention that he had a Laennec's type of cirrhosis is difficult to refute. It is noted, however, that in this patient's biopsy the normal liver architecture is preserved, with the central vein remaining in the center of the hepatic lobule and the portal triads remaining in their usual positions. The increase in fibrous tissue is in the periportal areas, which is where the sarcoid granulomata are most heavily concentrated. This is distinctly different from Laennec's cirrhosis, in which the normal liver architecture is disrupted, with the central veins no longer in the center of the lobule and with various-sized regenerating lobules.

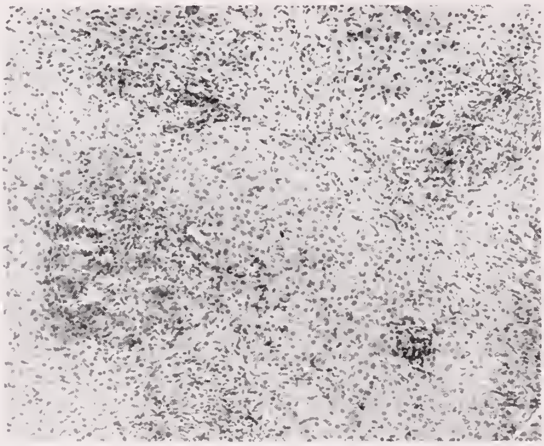

FIG. 3. Liver biopsy. There is a large granuloma to the left, with a small collection of round cells at lower right. There is a wide band of fibrous tissue at upper right with a granuloma above this. The liver cells appear normal; however, there is a slight increase in round-cell infiltration.

Although the patient feels relatively well, there is good evidence that his hepatic function is significantly impaired. At the present time there is no evidence suggesting that he has portal hypertension as a result of sarcoidosis with cirrhosis, although the development of this is a distinct possibility in the future.

DISCUSSION

According to Branson and Park[2] the liver is involved in sarcoidosis in about 65 per cent of cases, whereas clinical involvement of the liver is suspected in only about 20 per cent of cases. In most instances, therefore, the liver involvement is silent throughout the entire life of the patient, being found only incidentally either by liver biopsy or at autopsy. Because of this, Vim-Silverman needle biopsy of the liver is one of the most reliable means of helping to establish the diagnosis of sarcoidosis.[2-4]

Just as there are different degrees of pathologic involvement of the liver with sarcoid granulomata, so there are varying degrees of impairment of the hepatic function. In cases with minimal involvement there may be no functional impairment demonstrable by any available liver function test. In patients in whom the liver involvement is more extensive, various liver function tests may be abnormal, especially the bromsulfalein retention, the alkaline phosphatase, and the serum proteins.[2,4] With massive hepatic involvement by granulomata, with or without cirrhosis, the liver damage may become clinically more apparent by the development of hepatomegaly, icterus, edema, and even hepatic coma and death.[1,2,5-9] In the available literature there are a total of 6 cases of sarcoidosis with proven portal hypertension,[4,10-13] and we recently have seen 2 more at Walter Reed Army Hospital. These will be reported in a later paper. In several of these a surgical shunt procedure was done to reduce the portal pressure.

When the morbid anatomy of sarcoidosis is examined it is not surprising to find cirrhosis as a possible end-result in view of the fact that the liver is so often involved with granulomata. The sarcoid granulomata can be located anywhere within the liver lobule but are seen most frequently in the periportal areas.[2,4] Pathologically, it is recognized that these granulomata can remain unchanged for many years, can resolve completely, leaving no trace, or can resolve by a process of fibrosis.[1-4,7] This latter circumstance is seen in organs other than the liver in the patient with pulmonary sarcoidosis in whom the lesions become fibrotic, leaving the patient with extensive pulmonary fibrosis compromising gaseous exchange. Hepatic sarcoidosis with periportal fibrosis sufficient to be called cirrhosis has been reported sporadically in the literature in the past.[1,2,4-6,14-16]

Because the fibrosis has been interpreted as the healing phase of the sarcoid granuloma, steroids have been suggested as possibly being of some benefit in preventing this complication. Certainly, in patients who are febrile or systemically ill with malaise, anorexia, and weight loss, or who have ocular involvement with sarcoidosis, steroids can be of great benefit and should be used. Against this is the fear that the steroids can lead to early "healing" of the sarcoid granulomata, causing fibrosis and resulting in severe cirrhosis. This was suggested in a case reported by Kelley and McHardy[6] in 1955, in which a patient with sarcoidosis and resulting hepatosplenomegaly was treated with 2 courses of cortisone. The initial presteroid liver biopsy showed only granulomata without fibrosis. Eleven months after the first biopsy the patient died with a massive gastrointestinal hemorrhage, probably from steroid-induced gastric ulcerations; at autopsy the liver showed extensive fibrosis. It was mentioned that this patient had received 2 courses of X-ray therapy to the liver, but this was discounted as having anything to do with the resulting hepatic cirrhosis.

Mather et al[3] reported 9 cases of sarcoidosis treated with adrenal cortical steroids and followed with serial liver biopsies. The sarcoid lesions in 3 of these patients disappeared completely; in 3 others the lesions diminished greatly in size and number, but the fibrous tissue remained, and in the remaining 3 the granulomata were fewer but not smaller and there was an apparent increase in fibrosis.

Our patient received a course of cortisone 2 years before the liver biopsy showed granulomata with periportal fibrosis. The possibility that the steroids hasten the development of fibrosis of the sarcoid lesions is an interesting speculation, but because of the very few cases available it cannot be more than that at this time.

SUMMARY

A case of sarcoidosis with massive involvement of the liver and spleen is presented in which the liver shows, in addition to the granulomata, periportal fibrosis consistent with the diagnosis of cirrhosis. The occurrence of cirrhosis in patients with sarcoidosis is unusual but has been observed before.

Pathologically the granulomata occur most frequently in the periportal areas, and this is where the fibrosis also is most prominent.

These patients can manifest evidence of severe hepatic disease with jaundice, edema, ascites, and even portal hypertension.

BIBLIOGRAPHY

1. Longcope, W. T., and Freiman, D. G.: Medicine, 1952, **31**, 1.
2. Branson, J. H., and Park, J. H.: Ann. Int. Med., 1954. **40**, 111.
3. Mather, G., Dawson, J., and Hoyle, C.: Quart. J. Med., 1955, **24**, 331.
4. Klatskin, G., and Yesner, R.: Yale J. Biol. & Med., 1950, **23**, 207.
5. Dickie, H. A., and Middleton, W. S.: Wisconsin M. J., 1949, **48**, 407.
6. Kelley, M. L., Jr., and McHardy, R. J.: Am. J. Med., 1955, **18**, 842.
7. Shay, H., and others: Gastroenterology, 1951, **19**, 441.

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President's Page

MEDICAL COUNCIL OF THE WASHINGTON METROPOLITAN AREA

The Medical Council of the Washington Metropolitan Area was organized early in 1957. For a long time our Society had pointed out the need for such a group composed of representatives of each of the medical societies in this area. In 1950 approval of this suggestion failed by the vote of one county medical society. In 1957 each county medical society in this area petitioned the Department of Defense to include it as a participant in the Medicare contract between the Department and the Medical Society of the District of Columbia. Thus the need for such an organization became apparent, and the Medical Council was formed.

The membership of the Council consists of the immediate Past President, the President, and the President-elect of the Alexandria Medical Society, the Arlington, Fairfax, Montgomery and Prince Georges county medical societies, and the Medical Society of the District of Columbia. The executive secretary of each society is invited to the meetings. At the last meeting it was suggested that Past Presidents serve a three-year term instead of one year as at present. This proposal was referred to the individual societies for their consideration.

The activities of the Council are limited to the discussion of problems of mutual concern, and the making of such recommendations as it deems wise and proper. The Council has no authority to enforce any recommendation. Its action is purely advisory, and in no way obligates any medical society to a set of principles, or to any course of action. There are four regular meetings each year, all dinner meetings, for which each member of the Council pays his share. The Council elects a chairman and a vice chairman. The secretary of the Council is usually the executive secretary of the medical society which the chairman represents.

The need of a forum for the consideration and discussion of medical problems in the Washington Metropolitan Area is obvious. While the county societies are component parts of their state medical societies, many of their interests and many of their responsibilities in medical matters are almost identical with those of the District Medical Society. Members of these adjacent county societies have almost as much interest in the Medicare program, in the use of the recently completed Relative Value Scale, and in the new Workmen's Compensation Fee Schedule as do members of the District Medical Society. Medical Service has many subscribers living in nearby Maryland and Virginia. Without a close liaison between all groups interested in supplying medical care in this area, our colleagues in the adjacent states might not be informed of developments, or have the opportunity of expressing their views in the formative stage of any proposed program.

It would be futile to attempt to enumerate the many benefits that should follow the organization and operation of the Council. The good attendance of its members and the time they spend at the meetings augur well for its increasing usefulness in solving the many problems that beset the medical profession in this area.

W. LeRoy Dunn

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Editorials

D. C. COUNCIL ON THE AGING

At the present time there is an increasing interest locally, as well as throughout the country, in the problems of the aging. This is probably related to several factors—pressures, particularly sociopolitical ones, exerted by a disproportionately expanding population group; the upcoming White House Conference on Aging, with its offer of financial subsidy to participating states; promotional efforts of the Special Staff on Aging of the Department of Health, Education, and Welfare; and, finally, the factor which particularly pertains to the physician of an increasing need for ancillary services for patients with chronic disease. This increased interest is a good thing because it means that many people in varied communities and in different social and economic strata are becoming interested in the problems of the aging, and when enough people become interested, something is usually accomplished.

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

There is considerable evidence that efforts to meet the needs of the aging in the District of Columbia, as well as in most other communities, have been hampered by a lack of basic facts concerning needs and resources available and utilized, lack of community understanding, and thus poorly directed effort in terms of objectives and activities.

Geographic, occupational, cultural and political characteristics make the local situation quite different from that in any other community. Data and experience acquired elsewhere have only limited application.

On April 23 the Board of Commissioners appointed a 7-member Steering Committee as the initial step toward establishing a District of Columbia Council on the Aging:

Dr. Daniel Leo Finucane, Director of Public Health
Mr. Gerard M. Shea, Director of Public Welfare
Mrs. Albert W. Atwood, Health and Welfare Council, National Capital Area
Dr. Jack Kleh, D. C. Medical Society
Dr. Joseph L. Johnson, Medico-Chirurgical Society
Mr. Milo F. Christiansen, Superintendent of Recreation
Mrs. Theodore O. Wedel, representing the general public

This Steering Group was given the responsibility of forming this Council by bringing together those interested in the problems of aging and best qualified to construct the program for our senior citizens. It is anticipated that the medical profession will not only be well represented on this Council but will have considerable voice in formulating policies and plans.

The Council must concern itself at this time primarily with preparation for the District of Columbia's participation in the first White House Conference on the Aging to be held here in January of 1961. As part of the preparation, each state and the District of Columbia is required to submit a "State Plan" to the Special Staff on Aging of the Department of Health, Education, and Welfare. The Executive Board of the Council on the Aging has defined 3 fundamental objectives of the plan for the District of Columbia:

1. Establish an adequate fact-finding program
2. Develop community awareness and interest
3. Encourage a step-by-step action program.

The plan proposed to meet these objectives is outlined as follows:

I. Investigation
  A. Appraise community needs and utilization of resources by obtaining specific local data.
    1. Six Committees of the Council on the Aging (Economics, Education, Health, Housing, Recreation, and Rehabilitation) will determine the questionnaire content to be used in securing these data.
    2. This will be accomplished by volunteers interviewing a predetermined representative sample of the population.
  B. Tabulate community resources, including distribution with reference to geographic areas, as established for the appraisal plan above.
  C. Instigate special projects to both further the objectives locally and contribute to the national effort.

II. Coördination: Conduct a preliminary District of Columbia Conference on the Aging, probably in June, 1960, to consider the results of the efforts enumerated in Part I. A special committee has been established for the purpose of planning and conducting this Conference.

The facts and recommendations developing out of this Conference will be reported to the Secretary of the Department of Health, Education, and Welfare by July 1, 1960.

III. Participation: Meet with the other delegates to the White House Conference on the Aging in January, 1961 to exchange facts and ideas as developed in other communities.

IV. Activation: Continue to function beyond the White House Conference to direct attention of the community to the problems of the aging and to stimulate action on the basis of recommendations resulting from both the District of Columbia Conference and the White House Conference.

It is obvious that the problems of the aging are not those of the physician alone, but the medical profession has a considerable responsibility. There is certainly nothing more fundamental than health, and the private physician must work with each individual patient to foster health maintenance and chronic disease control, as well as with the community resources to promote these programs.

Every physician must work toward rehabilitating the patient to maximal function, and this involves a knowledge of facilities and services available and coöperative planning. While it may be desirable to return every individual to gainful employment, it is economically sound to rehabilitate even to a self-care level.

More physicians are becoming interested in nursing homes and homes for the aged in the community because of necessity. There is an ever-increasing need for paramedical facilities and services, and the interest of the physician is being extended to active participation in planning for such facilities and their programs, again as a coöperative venture.

The immediate need for action by the medical profession in the area of cost of medical and nursing care for the aging people has recently, and rather forcefully, been brought to the doctors' attention by the American Medical Association in its actions concerning the Forand Bill. This needs no elaboration.

The Medical Society has been active in planning to meet the needs of the aging in the District of Columbia. Besides the 2 physicians appointed to the Steering Group, 3 of the 6 committees have members of the Society as their chairmen. The Committee on Health of the Council on the Aging, with Dr. Andrew G. Prandoni as chairman, will concern itself with many of these problems. The Committee on Economics, chaired by Theodore Wiprud, will consider the financial problems of the aging, including the very pressing one of cost of medical care. Dr. Josephine Buchanan heads the Committee on Rehabilitation, which will consider social, occupational and vocational as well as physical rehabilitative programs. The other committees, namely, Education, with Mr. Francis A. Gregory as chairman, Housing, with Miss Doris Wilkins as chairman, and Recreation, with Miss Sibyl Baker as chairman, are less medically oriented, but it is anticipated that there will be physicians participating in the plans and activities of these as well.

It is hoped that through the efforts of the Council on Aging an integrated community program can be formulated to meet the needs of the aging in the District of Columbia, and that every aging individual can be either maintained in or restored to a position of independence and respect in his family and community. It should be reiterated that the medical profession must play an important role in this program if it is to succeed.

JACK KLEH, M.D.
Chairman, District of Columbia Council on the Aging; Chairman, Committee on Aging, The Medical Society of the District of Columbia

FEDERAL EMPLOYEE HEALTH BENEFIT LEGISLATION

As the Nation's largest employer, the Federal Government of the United States has the responsibility of leading the way in the development of employee benefits and employee relations. Strangely enough, this has not been accomplished in the area of Federal employee health benefit programs, and the Federal Government has lagged behind private industry in the provision of such a fringe benefit for its employees. In fact, the Government has not yet made available the use of payroll deduction for health benefit programs for which the Federal employees are willing to pay out of their own pocket. Now, however, the legislation passed by the Senate in July is expected to go a long way toward establishing the Federal Government as a progressive, forward-seeing employer with a model health benefit program designed to encourage well-trained competent personnel to enter into Government employ and to remain there. It was inevitable that there would be health benefit legislation for the employees of the United States Government.

The implications of a health benefit program for Federal employees to physicians of the Washington Metropolitan Area are serious and should be clearly recognized. Spokesmen for the Government have made it clear that they do not feel that they can negotiate and contract with hundreds of individual Blue Shield Plans, insurance companies, and other programs in individual localities. The legislation, therefore, has been drawn up to provide for the offer of a single Blue Cross-Blue Shield program by a single agency, a single commercial insurance-type program by the insurance industry, certain group practice prepayment plans, and Government employee organization plans already in existence. The individual Federal employee will have the opportunity to make a choice from among these 4 program types, and may select the one which seems best to suit his needs. Blue Shield Plans will be in direct competition with the other 3 programs, and will have to provide the best possible prepayment program for health care services for Federal employees if a significant portion of such care is to be provided by Plans in which physicians have a voice and an active interest. However, since the Government will deal with but one agency for a single package of services, all Blue Shield Plans which are qualified to participate in a health benefit program for Federal employees will be required to provide the same services that other such qualified plans provide. All of the Blue Shield Plans participating will be held to a common denominator with respect to the particular services which will be available in different areas throughout the country. Thus, Medical Service may have to tailor its program of benefits to one which is developed for Federal employees only, and which also can be serviced by other Blue Shield Plans throughout the country.

Physician participation in the affairs of Medical Service of D. C. and in the development of a realistic program providing full payment for covered services for subscribers whose incomes are below a fixed amount was never so meaningful as it will be in the months ahead when Medical Service must compete head-on with other programs which do not have these advantages. If physicians continue to support Medical Service, and to provide eligible subscribers who are entitled to service benefits with the assurance that their bills for covered services will be paid in full, large numbers of Federal employees who are not now enrolled in any insurance benefit program can reasonably be expected to select Medical Service as the prepayment program most valuable to them and their families. Medical Service of D. C. already has more Federal employees enrolled in its prepayment program than does any other plan. It is vital that the confidence of the Federal employees in the prepayment benefit program of Medical Service be developed and strengthened at this time. Also, physicians should be reassured that, while Medical Service may be called upon to subscribe to a different scope of benefits which will be common to a number of other Blue Shield Plans, it will do so with the understanding that the local fee schedule and income levels for service benefits will apply.

George B. McGovern
Executive Vice President,
Medical Service of the District of Columbia

ALCOHOL AND GASOLINE

Recently the State of Maryland put into law the endorsement of tests for alcohol in the blood and urine for drivers of motor vehicles. This completed the passage of these laws for the tri-state area surrounding the District of Columbia.

It would behoove physicians to become familiar with these laws because of the fact that not infrequently they will be consulted by their patients for information concerning these tests.

Tests for alcohol have been used for approximately 25 years. They have withstood the stress of time and at the present are excellent means of establishing on a scientific basis the degree of intoxication of an individual. In having these laws passed, the community has finally obtained methods of coping with an otherwise extremely knotty problem. The protection of the individual must always be considered foremost, but when the individual takes into his hands a lethal weapon, the automobile, and dispenses himself of responsibility, then the obligation of the community to protect the individual is outweighed by the responsibility to protect the remainder of the populace.

Under present laws which have been coördinated by the National Safety Council, a level of 0.15 per cent of alcohol by weight in the blood constitutes prima facie evidence of intoxication. A comparative level has been used for breath. The urine level at which intoxication is presumed is 0.20 per cent by weight. These levels can be reached only by the consumption of a relatively large amount of alcohol. The average 150-pound individual who consumes 4 ounce-and-a-half jiggers of 100-proof whiskey, or 4 bottles of beer on an empty stomach, will within approximately ½ to ¾ of an hour reach a blood alcohol or urine alcohol of this level. This then is not to be considered lightly, and fear or concern of falsely accusing an individual of intoxication is practically impossible. Physicians, of course, know that a meal, particularly a fatty meal will slow up the absorption of alcohol from the stomach, and therefore individuals could consume 4 jiggers of hard liquor or 4 bottles of beer without becoming intoxicated.

It is important for each of us to remember that these laws, although they are to be used to prosecute the guilty, are also allowed for protection of the innocent, and the use of the chemical tests on blood and urine is most helpful in proving an individual is not intoxicated when perhaps he may be taking medication of some other nature which has given a police officer the impression that he was "under the influence."

In addition, these tests are extremely valuable to persons who have suffered in an automobile accident. When head injuries have occurred, the use of the blood and urine tests helps to differentiate the etiology of an unconscious state.

Ignorance of the tests and their meaning could cause grave harm to the credulity with which they are accepted at the present time. Consequently, it behooves physicians to become familiar with these tests, and to become familiar with the circumstances under which they may be called to testify on them.

Oscar B. Hunter, Jr., M.D.
Member, Committee on Tests for Intoxication, National Safety Council

In and Out of Focus

BY THE OBSERVER

New Day for the Aging Everyone, it seems, is becoming conscious of the aged. Voluntary organizations of all descriptions are sponsoring programs which they believe will solve some of their problems. Federal, state and county governments, long concerned with this matter, have made slow progress, largely because of limited resources. All in all it is apparent that a satisfactory solution to major problems of the aging lies well in the future.

Although various organizations and agencies insist they anticipated the present situation, the fact is that it grew to serious proportions before they were fully aware of it. Legislative proposals introduced in the Congress and in state legislatures for the past several years should have served as a warning that a far greater effort was needed. But as so often happens, those now actively interested were concerned with other problems which at the moment were to them of vital importance.

In the last two sessions of Congress, the so-called Forand Bill (H.R. 4700) which would amend the Social Security Act by providing hospital, nursing home and surgical services for persons eligible for old-age benefits, has attracted wide attention. Labor organizations and social welfare groups have given this legislation ardent support. Spearheading opposition to the Bill's enactment has been the American Medical Association, which has taken the position that the problems of the aging can be solved by voluntary methods. The Association has not stood alone, having had the support of a number of national, professional and business organizations.

Hearings on the Forand Bill got under way in the current Congress on July 11, 1959, before the House Ways and Means Committee. Mr. Arthur S. Flemming, Secretary of Health, Education, and Welfare, in the opening statement said that the Administration was unalterably opposed to the legislation because "We do not believe that H.R. 4700 provides a satisfactory solution to the problem.

> "We are convinced that the objective of making adequate medical care reasonably available to our aged population should, so far as possible, be achieved through reliance upon and encouragement of individual and organized voluntary action.
>
> "Steady progress has been made in extending and improving voluntary hospital insurance coverage of the aged under nonprofit and commercial programs. About 40 per cent of the persons age 65 and over now have some hospital insurance protection. As recently as 1952 only 25 per cent of the persons age 65 and over had any form of hospital insurance. The most rapid increase in coverage has been in the age group 65 to 69. If the same average yearly increase in the proportion covered is maintained as has been maintained during the last few years, private hospital insurance will reach about 56 per cent of the aged population in 1965 and 68 per cent in 1970. If the same rate of increase in coverage of OASDI beneficiaries that was recorded between 1951 and 1957 continues, about 70 per cent of the aged beneficiaries group will have some form of health insurance by 1965.
>
> "In view of the special efforts that are being made by nonprofit plans and insurance companies and in view of the experimenting that is taking place with new methods for extending coverage, it seems to me that we can look forward with confidence to 70 per cent of the aged having some form of hospital insurance by 1965."

Mr. Flemming said that enactment of the legislation would have "far-reaching and irrevocable consequences. It would establish a course from which there would be no turning back. The opportunity for continued growth in coverage and adequacy of voluntary health insurance for the aged would be stifled before its full potential could be gauged." He said his staff had 2 major proposals under consideration: "(1) those designed to stimulate voluntary health insurance through pooling or re-insurance and (2) those designed to provide Federal subsidies to private carriers in order to enable them to cover above-average risks or to supplement premiums of persons of low income." He promised that both these possibilities would be thoroughly explored and he would report the results to the Committee and its Subcommittee on Administration of the Social Security Law.

The hearings might as well have been brought to a close at this point because of the Administration's stand. As a matter of fact, it was announced shortly after the conclusion of the hearings that the Forand Bill had been shelved. However, it would be folly to conclude that this was the last that would be heard of this legislation. It is certain that until a generally acceptable program for the care of the aging has been developed, this legislation will be introduced in succeeding sessions of Congress. The following brief review of more significant statements by representatives of labor, business and medicine would therefore seem justified.

Without doubt the most eloquent spokesman for labor was Mr. Walter P. Reuther. He spoke loudly and well, although it seemed to your Observer he resorted to clichés and platitudes when he did not know the answer or did not want to reply to questions directed to him.

Representative Bruce Alger of Texas took issue with Mr. Reuther on several points. Reuther's favorite retort when he could not think of an adequate answer was that he did not "fight ideological windmills." However, one cannot deny the effectiveness of Mr. Reuther as a witness. He possesses a keen mind, and, as stated, is an eloquent advocate.

In concluding his formal statement for the record, Mr. Reuther said: "The Forand Bill is a well considered, carefully thought out, practical proposal. It is essentially sound and we stand ready to join with other constructive forces in America to support this legislation."

He, of course, minimized the effectiveness of voluntary health insurance, citing his experience in this field. He described the AMA's proposal that local medical societies establish cut-rate fees for the needy aged as "quixotic." He said it was "unbelievable" that the medical profession "should employ the weight and privilege of its professional associations to fight a measure so eminently in the public and in their own interest."

Speaking for the Chamber of Commerce of the United States, Mr. Allen D. Marshall, Vice President of General Dynamics Corporation, said:

> "A fundamental principle in Social Security has been the wage relationship to benefits. This principle has been enunciated several times in the reports of the Committee on Ways and Means and the Senate Committee on Finance. It is typically American to have rewards related to the economic effort involved. Moreover, it is reasonable that those who had higher earnings in prior years should have a somewhat higher 'floor of protection' against want and destitution. . . .
>
> "Perhaps no other proposal for amending Social Security ever considered by this Committee would so drastically alter certain uniquely American features and fundamental principles of this time-tested program. We do not question the good intentions and motives which gave rise to H.R. 4700. However, the implications and seemingly almost inevitable consequences are such that we urge the Committee to reject the entire proposal."

Our Day—When?

There were several spokesmen for the medical profession. Two extremes were represented in Dr. Allan M. Butler, Professor of Pediatrics of Harvard Medical School, who appeared for the Physicians Forum, Inc., and Dr. Herbert

Berger, President-elect of the New York State Society of Internal Medicine.

The former gave the testimony expected in favor of the bill; the latter ran into some sharp objections from Representative Forand when in his formal statement he said, "Does it not seem inconsistent that we should be fighting such Communism in Geneva while introducing legislation supporting it in Washington." It is fair to state that Dr. Berger's statement could have been more thoughtfully prepared.

Dr. Leonard W. Larson, Chairman of the AMA's Board of Trustees, was the Association's spokesman together with Dr. Frederick C. Swartz of Lansing, Michigan, who is Chairman of the AMA's Committee on Aging.

Dr. Larson emphasized that the AMA was making good on its pledge during the Committee's hearings in 1958 "to a dedicated, continuing effort in the field of health care for the aged." He reviewed the progress to date and said that he was happy to report that "there are now 25 Plans in 23 states offering Blue Shield programs for those over 65. Further, in 16 other states, our medical societies, in cooperation with the Plans they sponsor, are working out programs of a similar nature." These and other gains, he said, would be nullified by passage of H.R. 4700.

Several state medical societies were represented at the hearings. These were given brief opportunities to testify. However, many filed their statements, letting it go at that.

The District Medical Society's position was stated in a letter directed to Leo H. Irwin, Chief Counsel, House Ways and Means Committee. The communication, signed by the President of the Society, read in part:

> "The Board, speaking for the Society, supports the American Medical Association in its opposition to H.R. 4700. At the same time, the Board is conscious of the urgent need for an adequate medical care program for the aging population.
>
> "Elaborating upon the latter point, the Board is encouraged by the progress now being made by Blue Shield Plans and commercial insurance companies which are providing greater protection against medical care costs for the aged at reduced rates. However, the cost of physicians' services is only one facet of the problem, the most serious being that of the costs of hospitalization and nursing home care.
>
> "Obviously, nonprofit voluntary prepayment hospitalization plans such as Blue Cross cannot reduce rates to subscribers unless there is a corresponding lowering of rates by hospitals. The hospitals, on the other hand, must maintain their present rates and perhaps increase them if they are to remain solvent. Obviously, there is no easy answer to this problem. The Board, however, does not believe the Forand Bill to be the best solution. It is of the opinion that voluntary methods, even if supplementary funds are required, should be given a fair trial before the Government assumes the responsibility.
>
> "Our Society naturally concerns itself primarily with the situation in the District of Columbia. Through its Council on Rehabilitation, with the assistance of Government funds, it is concluding a 3-year study of the handicapped in the Metropolitan Area. In this category is a sizable segment of the aged. Its Committee on Public Health has long been concerned with raising the standards of care in nursing homes. The Committee on Medical Care has developed a Relative Value Unit Scale (a guide for physicians in setting their fees) which it is planned will be used in developing a plus-65 prepayment program in coöperation with the District's Blue Shield Plan, the Medical Service of the District of Columbia. The Society is also actively coöperating with and is well represented on the District Commissioners' Council on Aging."

While this legislation has been pigeonholed for this term of Congress, it should be reëmphasized that the proponents of this legislation are far from through. One can be certain that there will be plenty of activity on its behalf in the next session of Congress. In the meantime, it is up to those who oppose this legislation to convince the people of the country that the problems confronting the aging can be solved by voluntary methods.

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A Courageous Leader

It is 4 years since the AMA's Board of Trustees announced the creation of the Commission on Medical Care Plans for the purpose of "making a comprehensive survey of various types of plans through which the American people received medical services." Shortly following this announcement, your Observer commented that many studies in this field had been made and it seemed to him that the Commission would be covering the same ground. Furthermore, unless the study was completely objective, it would be a waste of time. "Even then it will have hard sledding where public opinion is concerned," he stated. "The fact that there are no disinterested persons on the Commission will not escape [public] attention."

Whatever misgivings he had about the project, he had none about its Chairman, Dr. Leonard W. Larson, of Bismarck, North Dakota, one of the ablest members of the AMA's Board of Trustees. With Dr. Larson at the helm it was certain that the Commission would, if his views prevailed, submit an objective report. This was confirmed at the meeting of the House of Delegates in Minneapolis last December when a preliminary report was presented. Dr. Larson was, of course, not solely responsible for the report because others on the Commission felt as strongly about getting at the facts and reporting them honestly as he did.

Some months following the Minneapolis meeting, your Observer stated (MEDICAL ANNALS, April 1959) that the Commission's report was "no run-of-the-mill document. The Commission deals honestly and objectively with the most controversial issues facing the medical profession today. Some of its conclusions will not be palatable to a number of medical men. Whether they agree with them or not, they will have to respect the Commission's courage and integrity."

On the "free choice" principle the Commission voiced the opinion that it "means the right of the individual to exercise, without restraint, selection among alternatives. Furthermore, as applied to medical care, an individual should have the right to select a physician of his choice." However, the Commission went on to say that "the medical profession should assume a judicious, tolerant and progressive attitude toward developments in the medical care field. The need for continued experimentation is recognized, and the profession should undertake, and actively participate in, the study and development of various mechanisms for the provision of medical care of high quality."

Such views as these stirred some delegates in the House to deep anger. Dr. Larson, being Chairman of the Commission, bore the brunt of their wrath. To his chagrin he learned that the Commission's findings and recommendations were being referred to as the "Larson Report." He protested mildly but did not budge an inch from his stand that objectivity and a realistic attitude in dealing with the complex problems involving medical costs were in the best interests of the public and the profession. He had no apology to make for the Commission's report. In fact, he thought it should receive the commendation it deserved.

A minority in the House at the Minneapolis meeting had protested so vigorously that many were convinced a stormy session of the House could be anticipated when the report came up for a vote in Atlantic City in June, 1959. Fortunately, Dr. Jack S. DeTar was appointed Chairman of the Reference Committee of the House, to which the report was referred. Cool, collected and witty, he was an excellent choice, handling the contending delegates firmly but good-naturedly.

As is usually the case, differences were settled by compromise. Because of the objections raised by several delegates, the body of the Commission's report was received by the House for information only. However, the Commission's recommendations were unanimously adopted with minor changes.

As expected, the most controversial recommendation was the interpretation of the "free choice" principle. Originally, the Committee's recommendation read: "The principle of 'free choice of physician' should be applied as universally as is practicable. Each plan member should have the widest possible choice of physician." Criticism was leveled at the phrase "as is practicable." As a result, the following recommendation was substituted: "The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or to select his preferred system of medical care, and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

Other changes of a less vital nature were also incorporated in the recommendations. All in all, Dr. Larson and his associates on the Commission had won their fight for an honest and forthright approach to the most difficult socioeconomic problems facing the profession today. As for Dr. Larson himself, he had grown in the esteem of his colleagues. They had for some time recognized that he was the essence of integrity and kindly understanding, but here he revealed himself as a courageous leader in the face of bitter criticism.

An interesting sidelight on the leadership of the AMA is that Dr. Larson and Dr. Gunnar Gundersen, President of the Association the past year, are of Norse extraction. Both have demonstrated the legendary Viking spirit in the discharge of their duties.

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VIP's in Service Hospitals

Some weeks ago Senator Stephen M. Young of Ohio accused Mr. James C. Hagerty, White House press secretary, of receiving "socialized medicine on a preferential basis" because he had had his appendix removed at Walter Reed Army Hospital. Senator Young pointed out that this Hospital is primarily intended for use by military personnel and their families and questioned the propriety of service institutions caring for persons in Mr. Hagerty's category.

The Senator's criticism apparently aroused the curiosity of the Washington *Evening Star*, which assigned one of its staff writers, Mr. William MacDougall, to ascertain the extent to which high public officials took advantage of "medical care at bargain rates" in Government institutions.

Mr. MacDougall found that "getting Government doctors to talk about the situation was almost impossible." He reported that one Navy official "tried to invoke a cloak of military secrecy about the number of Government officials admitted each year to Bethesda." This official was quoted as saying, "The enemy can glean some intelligence from that kind of information. We don't release those figures."

Dr. George W. Calver, physician to members of Congress, was quoted as saying he did not know the number of Representatives and Senators who are provided Government hospital care, stating that "I don't keep a record of that on purpose. I wouldn't hazard a guess." However, he pointed out that White House and Capitol physicians and the Surgeons General of the Army and the Navy were authorized by a Presidential order to refer patients to Government facilities.

The Army, on the other hand, did not hesitate to inform the reporter that 38 high Government officials had been admitted to Walter Reed in 1958 as compared to 4 Congressional patients in 1948.

Mr. MacDougall was informed by spokesmen for the services that the Army and Navy Secretaries laid down ground rules for admittance to their respective institutions regardless of military status.

The majority of VIP's admitted are furnished semi-private or private accommodations "in line with their positions." Regardless of whether the patient enters a ward or private room he pays $21 a day. Included are medical services, operating room, X-rays, laboratory fees, in fact, everything that goes into his care.

Mr. MacDougall reports that according to a Washington surgeon and one of the City's leading hospitals, "A well-heeled patient would probably pay about $72 a day for a relatively minor operation and treatment under private care—more than 3 times the price at Walter Reed." The cost of a "plush" private, air-conditioned room in George Washington Hospital is $29.50 a day, the doctor's fee about $200, and other services, such as the use of the operating room and anesthesia, $100; total cost of these services for a week in a private hospital in Washington, $506.50.

Civilians, in addition to high Government officials, who are admitted to military hospitals in the Washington area, according to law, are State Department foreign service officers and veterans. Most of the latter, however, are treated at Mt. Alto Veterans Hospital. There are also high-ranking foreigners who on occasion are admitted to Army and Navy hospitals upon the request of the State Department.

An indication that the Government is feeling the pinch of the inflation is revealed in the announcement of the Budget Bureau that on July 1, 1959, the charge for the above services in area military institutions is being raised from $21 to $21.25 a day. "Costs," it was stated, "are going up."

Mr. MacDougall's report makes enlightening reading. Less favorably situated individuals burdened with sickness costs cannot be expected to enthuse over these disclosures. However, it would be a mistake to condemn the procedure without taking into consideration the individual situation and the character of the official's responsibility and services to his country.

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Safety in Facing Backward

Sharply critical of the protection afforded passengers on commercial airlines in the event of a crash, *The Lancet* (London) declares that "the human body, if properly restrained, can stand very sharp deceleration for a brief period."

> "Aircraft crews usually have to face the way they are going, and they are provided with harness to keep them in their seats. This harness [referring to the type in use by the Royal Air Force] is elaborate, consisting of a wide abdominal belt connected to a shoulder harness, and it is stressed to take forces up to and beyond the strength of the seat. The deceleration loads are spread over a considerable area of the body, though not as large as the area in contact with a backward-facing seat. The value of such a harness has been proved repeatedly."

As an example of the life-saving protection the harness provides if properly used, *The Lancet* reports an incident where a transport aircraft failed in flight and an emergency landing had to be made under very adverse conditions. Visibility was bad and the plane crashed into the side of a small wooded hill. It was estimated that the speed on impact was 90–100 knots, and the deceleration at 10 G or 10 times gravity.

The first pilot was strapped to his seat in what is called a "Q-type" harness. Although the seat buckled, the pilot's injuries were trivial. The second pilot neglected to fasten his shoulder harness although the abdominal strap had been tightened. As a result he was critically injured and died shortly after the crash.

Most significant was the fact that of the 19 passengers, all of whom occupied seats facing backward, only 5 received minor injuries and these were due largely to falling luggage. As is well known, all commercial airline passengers now face forward, which, *The Lancet* states, "does not restrain the trunk at all." In the event of a crash the body is catapulted forward and downward and the individual is very likely to strike the seat in front with resulting serious injury. The narrow belt which is currently used may be the cause of internal injuries, because, as *The Lancet* points out, it is applied to a very small area.

Attention is directed to surveys conducted by the Royal Air Force and in the United States which reveal that "passengers have expressed no preference for facing forward, probably because they can see so little from the cabin anyway."

At a hearing in England where this matter was under discussion, the Joint Parliamentary

Secretary to the Ministry of Transport and Civil Aviation admitted the superiority of the backward-facing seat arrangement. However, he thought its contribution to safety of passengers was "marginal" and that if the airplane reversed itself in crashing the backward-facing passengers would be facing forward. To which *The Lancet* replies: "This hardly seems a valid argument against a measure which caters for the usual crash situation, in which the forces are not so reversed."

The Royal Air Force, it appears, has been sufficiently impressed to install backward-facing seats in all Transport Command planes, not overlooking the fact that "the first safety requirement is a strong seat and mounting." On the other hand, the International Civil Aviation Organization has twice rejected the proposals to make backward-facing seats mandatory on commercial planes.

In summing up the situation, *The Lancet* concludes that "where there is no strong public opinion, the world's airlines are influenced more by economic than by safety factors."

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"MD" Auto License Plates

Members of the Society have from time to time suggested that efforts be made to have numbers on their automobile license plates in the District of Columbia prefixed by the letters "MD." On at least two occasions, requests to this effect were forwarded to the District Commissioners, who, for one reason or another, were not favorably inclined to the proposal.

The last communication on this subject was addressed to Mr. Robert E. McLaughlin, President of the Board of Commissioners of the District of Columbia, by the Secretary of the Society on March 26, 1959. He requested that the above matter be again submitted for the Board's consideration. Mr. McLaughlin replied he would be glad to do so, which he did. The Board referred the request to the Department of Motor Vehicles which is under the direction of an Engineer Commissioner, Brigadier General A. C. Welling.

Following a conversation with Mr. George A. England, Director of the Department of Vehicles and Traffic for the District, General Welling wrote the Secretary that if the request were to be granted, applications for tags bearing the letters "MD" would have to be processed through one central point. The Secretary ascertained that Mr. England was agreeable to applications and payments for tags being channeled through the offices of the Society. Mr. England explained that if this procedure were adopted, plates in the letter series "MD" would be assigned to doctors of medicine practicing in the District of Columbia.

Upon being informed of these developments, the Executive Board, at its meeting on April 27, 1959, directed that the Secretary canvass the Society's Active and Life membership to determine how many wished "MD" on their automobile license plates. If there were a sufficient number, the Board agreed, arrangements would be made to handle applications for 1960 license plates through the Society's Executive Offices.

Enclosed with the communication to the membership was a form on which to indicate whether or not the member would or would not apply for automobile license plates bearing the letters "MD." The total number who returned their forms was 678.

An analysis of the returns follows:

D. C. Residents:	
Favor "MD" plates	511
Do *not* favor "MD" plates	91
Unchecked answer	1
Undecided (go along with majority)	1
	604
Nonresidents (who live in Md. or Va.):	
Indicated they would favor if D. C. residents	30
Miscellaneous and nonapplicable	44
	74

The few who commented with their "voting" had the following to say:

"Bad public relations for doctors to put any sign on larger cars (O.K. for smaller cars like Fords, etc.)."

Some switch cars with wife or husband—"bad public relations to have them drive by an accident and not assist—having no medical training."

"When traveling on vacation it is easy to remove small insignia—so as not to be identified as a physician—have to listen to people's symptoms, etc."

"Gasoline stations, motels, roadstands will raise the price—say, 'Here's where I can get back our last doctor's bill.' "

"AMA members have official emblems—public would fail to understand what the M.D. would mean."

"This offers the doctor no advantage; I have never identified my car as a doctor's car and do not want to."

"Car liable for breakage and theft—narcotic seekers are known to look out for cars bearing MD plates." (One said the Police Department told him to take insignia off his car after it was broken into.)

"New York state has MD plates—has been a great help to police and passers-by in time of accidents. Many nonphysicians put insignia on cars, but this would make it official and reliable—eliminate misunderstanding."

As is usually the case, those "for" merely voted that way; some of those "against" wanted their reasons for opposing known.

Upon being informed of the results of the survey, the Executive Board, at its meeting on June 22, 1959, instructed the Secretary to communicate with Mr. England advising him of the results of the canvass and stating that the Society was prepared to carry out the arrangement which he had proposed. Toward the end of this year, Active and Life members will be notified that they can apply for "MD" license tags through the Society's Executive Offices. They will also be informed that their check must accompany their application and that tags will be sent them directly.

T. W.

NEW CLINICAL CENTER STUDY ON MALIGNANT CARCINOID

The coöperation of physicians in nearby areas is requested in a study of the carcinoid syndrome (malignant carcinoid) recently initiated in the Clinical Center, National Institutes of Health, Bethesda, Md. This study is being conducted by the National Cancer Institute and has as its primary purpose a search for therapeutic agents that may favorably affect the course of the disease. The biochemical abnormalities responsible for the physiologic manifestations mentioned below constitute a highly sensitive parameter of disease activity. In addition, they serve as a potential metabolic target.

Recent publications have defined in detail this clinical syndrome. It consists of a slowly progressive malignant disorder which affects middle-aged or elderly persons. Episodic diarrhea, breathlessness, and flushing of the skin occur. The physical findings include redness and telangiectasia of the skin, cardiac murmurs primarily affecting the pulmonic and tricuspid valves, and hepatomegaly. Frequently, right lower quadrant surgical exploration has been performed in the past for removal of a local carcinoid tumor. In spite of extensive study, there is, at the present time, no form of therapy which alters the progressively downhill course of patients with the carcinoid syndrome.

It is preferred that patients be referred prior to the advanced bedridden stage of their illness. Accepted patients will be studied for varying periods of time and may be followed subsequently either by the referring physician or physicians at the Clinical Center. A comprehensive and individualized program will be instituted for each patient and will include appropriate supportive and symptomatic care as well as the above-mentioned experimental therapy.

Physicians interested in the possibility of referring such patients should write or telephone Dr. Charles G. Zubrod, Clinical Director of the National Cancer Institute (Oliver 6-4000, Ext. 4346) or Dr. Emil Frei III, Head of the Chemotherapy Service at the National Cancer Institute (Oliver 6-4000, Ext. 2500).

Cancer Page

$100.00 FINE

Yes, you are probably eligible for this fine. Undoubtedly, there are a great many physicians in Washington who are completely unaware of the fact that they are operating under Public Law 83, 82nd Congress, approved July 27, 1951. This law makes it mandatory to report all cancer and neoplastic disease. In part, the regulations specify that all persons licensed to practice the Healing Arts in the District of Columbia shall report within 30 days from the date of diagnosis thereof the existence of any case of cancer, sarcoma, lymphoma (including Hodgkin's disease), reticulum-cell sarcoma and lymphosarcoma, leukemia or any other malignant growth to the Director of Public Health, District of Columbia. Report forms are provided, and the information is kept confidential and used only for statistical and Public Health purposes. Any person convicted of violating any of the provisions of the regulations is punishable by a fine not to exceed $100.00.

Now, all this may seem like a lot of bureaucratic impingement on the practice of medicine, but consider the worth of the purpose behind it all. What do we know about cancer? Aside from the pathologic and clinical manifestations of the disease, we must have an accurate statistical accounting of age, sex, color, incidence and type of cancer. We must study the problem in statistical terms and follow patients to see just how we are succeeding or failing in our fight against it. To this end the Bureau of Cancer Control of the Health Department has just recently begun to expand its program to try to fulfill the provisions of the law just mentioned. At the moment the Bureau is decidedly understaffed, and, as a result, our knowledge of cancer morbidity and cancer cures in Washington, D. C. is poor. We hope this article will bring to your attention the need for accurate reporting and coöperation with the Bureau of Cancer Control.

CANCER LITERATURE FOR PHYSICIANS

Available to physicians upon request to the District of Columbia Division, American Cancer Society, Executive 3-3690, are the following pamphlets:

CA *Bulletin*
Bi-monthly publication of cancer progress. Physicians wishing to subscribe should call the above number.

The Importance of Cytology to the Practicing Physician
Brochure on exfoliative cytology.

Help Yourself to Recovery
Suggested exercises for the post-mastectomy patient.

Care of Your Colostomy
A source book of information.

Cancer Detection in the Physician's Office
Clinical guide for the detection of cancer in the ambulatory patient in physician's office.

Home Care after Urological Surgery
Booklet on use and care of equipment necessary for home care.

Nursing Care for Head and Neck Patients
Handbook outlining essentials in use and care of equipment.

Breast Self-examination
Guide for women on technic used in film of same name.

If You Only Knew
Pamphlet for women, outlining importance of annual pelvic examination and cell test.

ANNUAL REPORT OF THE PHYSICIANS' SERVICES COMMITTEE OF MEDICAL SERVICE*

In 1946, the District Medical Society submitted for the consideration of its membership a prepayment medical care plan which provided for physician participation in the affairs of the plan in two ways: by the election of a Board of Trustees, the majority of which would be nominated by the Medical Society; and by the establishment of a Committee on Physicians' Services, which is composed entirely of Participating Physicians. Medical Service of the District of Columbia began operations under the guidance of these two bodies, and while a number of other committees have been appointed to keep pace with the growth and broadening interests of the Plan, the Board and the Committee on Physicians' Services continue to function in the manner originally prescribed. It is important to recognize that the incorporators of Medical Service intended that problems concerning medical practice and fees should be the responsibility of practicing physicians, and that the participation of practicing physicians in the affairs of Medical Service has been encouraged and increased ever since.

As originally prescribed in the By-laws of Medical Service, the functions of the Committee on Physicians' Services are to protect the interests of subscribers to the Service and of Participating Physicians. The members of the Committee on Physicians' Services are well aware of their responsibility to the public and to Participating Physicians, and through the years they have maintained an objective and balanced approach to their duties.

In its consideration of payment for claims which cannot be processed administratively and the adjudication of complaints concerning them which are made by patients and physicians, it is necessary for the members of the Committee to subordinate their own or factional interests, and relate their consideration of a problem to the limiting aspects of the Medical Service program. In the matter of fees or allowances, it is necessary to consider them in relation to other fees and allowances which have been approved, and to recognize that the fees and allowances provided by Medical Service are not intended to represent the value of any service but are intended to serve as compensation for services provided subscribers who are within specified income levels.

In its consideration of cases in which payment is requested for the treatment of complications, the Committee may receive claims for services which would normally be provided without additional charge. If Medical Service were to provide benefits for the treatment of all complications, it would be making additional payments in many cases where an additional charge would not otherwise be made, and the cost of medical care to the Medical Service subscriber would be increased accordingly. Obviously, the public must look for other ways of financing their medical care if, by participating in Medical Service, they are arbitrarily charged for services for which no charge would be made if they were not subscribers to Medical Service.

From time to time the problem of paying for extensive use of laboratory services has confronted the Committee, and various approaches have been made to this problem. At one time, a rash of cases was received from one of the teaching hospitals in connection with problems of electrolyte balance, and the subject was discussed with the Chief of the Medical Service in order to determine if the billing in these cases was similar to that which might be made if the patient had had no insurance. Subsequently, this type of case became less of a problem. During the past year, several cases have been received in which the laboratory charges exceeded $1,000, and it was recommended by the Committee on Physicians' Services that the Medical Society's Section on Radiology and its Section on Pathology and Laboratory Medicine give consideration to a scale of diminishing allowances for use in cases where a multiplicity of procedures results in total charges which exceed the maximum surgical allowance provided in the schedule. This request was endorsed by the Committee on Fees, and the two Sections have been asked to consider such a scale or some other form of relief which would assist Medical Service in developing an equitable solution to the problem.

As cases have developed in uncharted or specialized areas, it has been necessary for the Committee to obtain advice and recommendations from specialized groups of physicians. This has been especially true with respect to claims for dermatologic cases, where a multiplicity of procedures may be required, and also with respect to plastic surgery, where the available fees in the schedule are often not applicable to a long-stay case involving repeated procedures. The assistance of the Subcommittee on Dermatologic Problems has resulted in a pattern of understanding with respect to the submission of claims, and cases in which questions were raised with regard to payment for dermatologic procedures were substantially fewer during the past year than in our previous experience. A Subcommittee of Plastic Surgeons has reviewed a substantial number of cases and made recommendations which have been helpful to the full Committee in its consideration of payment for long-stay cases and cases in which a variety of procedures are required.

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* Presented at the Annual Meeting of Participating Physicians of Medical Service of the District of Columbia, April 29, 1959.

The maximum payment that would be provided by Medical Service under the general provisions of the fee schedule when two or more procedures are performed by the same surgeon through the same incision should also apply when two or more surgeons participate in the operation. The cost to Medical Service should not be increased because more than one surgeon participates in the surgery. It has been necessary, therefore, that the Committee recommend that the allowance which would be paid if the surgery were performed by one physician be allocated among the surgeons involved when more than one surgeon participates in the same case. In such cases, the allocation of the allowance is recommended by the Committee for acceptance by the physicians who participated in the problem, with the understanding that the surgeons involved may agree that the allocation should be made differently.

There is a wide variety of problems which are considered by the Committee. The total number of cases reviewed, and the amount of money involved in our deliberations may seem small in relation to the number of cases processed routinely through the Claims Department, but they are cases which can be judged fairly and accurately only by physicians, and the Committee performs a vital and valuable service to physicians and the public alike in evaluating them. During the past year the Committee analyzed 149 cases, which can be broken down according to the following general subjects:

There were 23 appeals from subscribers involving eligibility in which the contract had been in effect less than 10 months. Of these cases, 6 were considered to be eligible, and 17 not eligible. It should be pointed out that complete information on the Physician's Service Report with regard to symptoms and the date of onset of a disease can do much to clarify the eligibility of the patient in such cases, and we urge you to provide such information when it is pertinent.

Appeals from physicians for additional fees numbered 43, of which 10 were allowed and 33 denied. In those cases in which an additional fee was not allowed, the averaging aspect of the schedule of fees was often the basis for denial of the increase. The Medical Service fee schedule represents an average allowance for both the more difficult and routine cases, and it is expected that these will balance out fairly well over a period of time.

Fees set for procedures not listed in the fee schedule numbered 16. In most cases, the procedure was submitted to Medical Service with descriptive information which made it possible for the Committee to recommend an allowance, pending the establishment of a new fee for the procedure at a later date. The recommendations of the Committee with regard to fees for new procedures have been referred to the Committee on Fees, and that Committee has usually referred the problem to a Section or other organized group for advice. In time, the recommendations of the Fee Committee are passed on to the Board and eventually come to you for approval at this Annual Meeting of Participating Physicians.

Cases involving payment for multiple procedures totaled 50 in number. In such cases, the Committee often provides an allowance in excess of the maximum allowance in the schedule of fees for a single procedure, and the work of the Committee in this area of benefit is of particular importance to Participating Physicians and the subscribing public. Since there is no fixed limit on the amount which can be paid for surgical care in cases involving repeated surgical procedures, the Committee has approached the payment for such cases conservatively, always bearing in mind that the allowance represents an amount which serves as payment in full only for patients with a total family income of $6,000 a year, or less.

The balance of the cases reviewed by the Committee consisted of miscellaneous problems which were handled individually as they arose.

The Committee has approached all these problems with dedicated interest and objective judgment. It has been assisted by the administrative staff, particularly Dr. A. C. Gray, who has presented the cases to the Committee and summarized the available information concerning them. He has been assisted by Mr. George B. McGovern, Mr. Arthur B. Carpenter, and Mr. Alan Ridgway, who have clarified contractual interpretations and have served as secretary at the meetings.

The members of the Committee who have served with me during the past year are Drs. C. Willard Camalier, Jr., C. Barrie Cook, Edward E. Ferguson, Luther Gray, Raymond T. Holden, Gordon S. Letterman, Allan M. McKelvie, J. Peter Murphy, and Lawrence A. Rapee. In addition, Drs. Brooks G. Brown, Kenneth L. McCoy, Robert B. Nelson, Jr., David Johnsen, John P. Adams, John Gallagher, and C. W. Harnsberger attended meetings of the Committee when called upon as alternates. As chairman of the Committee I am deeply grateful to each of these men for their generosity of time, intelligent evaluation, and wise counsel.

My service with the Committee on Physicians' Services now ends. It has been a stimulating and worthwhile experience, and I am sure that I have become a more knowledgeable and more understanding participant in Medical Service because of it. It is my real hope that the physicians in the Plan and its subscribers have benefited as I have from my service on the Committee during the past 3 years.

James S. Dryden, M.D., *Chairman*

MEMBERSHIP

The following applications for membership were duly elected to membership by the Executive Board, July 27, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

George A. Boinis, 1629 Columbia Road, N. W.
Francis X. Carillo, 5324 Rock Creek Church Road, N. E.
Stephen W. Dejter, 6719 Wilson Lane, Cohasset, Md.
Orville Wright Donnelly, 9001 Clifford Avenue, Chevy Chase, Md.
Charles E. Goshen, 8501 Howell Road, Bethesda, Md.
Irene E. Roeckel, 1507 Foxhall Road, N.W.
Harold C. Sadin, 1025 Vermont Avenue, N.W.
John Harmer Sager, 1028 Connecticut Avenue, N.W.

Associate Members

William Otis Bailey, Leesburg, Va.
Elizabeth Wann Chu, 6904 Calverton Drive, Hyattsville, Md.

The following applicants for membership will be voted on at the meeting of the Executive Board, September 14, 1959.

For Active Membership

Helmut P. Arenz, Philipps University (Germany)—1947
Habeeb Bacchus, George Washington University—1954
Ernst H. Bremer, University of Wurzburg (Germany)—1949
William R. Claytor, Howard University—1954
Edward E. Cornwell, Howard University—1954
Nikolas A. Janovski, Leopold Franzens University (Austria)—1950
Joseph F. Schanno, Georgetown University—1954
Jason Faht-Gong Yee, George Washington University—1958

For Associate Membership

Edgar H. Hinman, Louisiana State University—1937
Gerold K. Klein, University of Berlin (Germany)—1943
Barry Rosenberg, Baylor University—1958

Recent changes in membership status:

Active to Affiliate

Sidney W. Lowry

Active to Associate

Ralph A. Olson

Associate to Affiliate

Peter P. Andrews

Resigned

Active

Francis M. Forster
Owen Gwathmey
Stanley J. Haberek
Lee M. McCarthy
Howard M. Payne
John E. Smith

Associate

Theodore S. Moise
Russell C. Payne
Stanley Weitzner

Resident-Intern

Robert E. Goyne

On the Lighter Side

Summer weather may vary from day to day. Your patient load may be heavy or light. Your financial responsibilities may be overpowering or not. Your disposition may be grumpy or cheerful. Your wife's mood may change from black to white and back again—but when a doctor owns a boat of his very own the urge to go fishing is always the same.

Recently I had the opportunity to spend a refreshing day on The Albacore, Dr. Ed Wilson's private *modus operandi* for fishing the green waters off Ocean City, Md., and, on less extravagant days, for fishing the fickle waters of the Chesapeake Bay.

My pipe-smoking companion for the trip was Dr. Clyde Reeves, the ardent duck shooter, the patient fisherman, and the all-around sporting gentleman from K Street.

Three-thirty in the morning is an ungodly hour to get out of that old comfortable sack when duty calls, but it is a real test of will power to shake the old bones alive when it is for pleasure only. There is always present, after the first mad ring of the alarm, that fleeting wish to put off the getting up until some other time in order to turn over for another snooze. But, of course, one doesn't do it; therefore we were rolling over dark deserted highways and whizzing through quiet sleeping towns from 4 until 7 a.m.

I must admit that Ed Wilson is a real glamor boy when he gets out of bed first thing in the morning—especially after sitting up half the night with a few friends. Edna Wilson is much easier to look at at 7 a.m. in the morning, and a most gracious hostess.

The life of the medical week-end waterman at Ocean City is tranquillity personified. No fuss. No bother. No fancy feathers covering the enlarging paunches. Just complete relaxation until it is time to rev up the boat's motor for the day's fishing. And by 7.30 a.m. the entire fishing fleet is cutting the sparkling water into fine foam on its way out into the depths 20 or 30 miles from shore.

The Albacore traveled in the wake of The Kingfish, a beautiful, well-equipped 36-foot Egg Harbor boat that sleeps 6 and is propelled by powerful, twin V-8 engines that generate 225 galloping horses when pushed. Proud owners of The Kingfish are Dr. and Mrs. Richard Fischer. And you should see that petite Mrs. Fischer successfully land a 90-lb. blue marlin! It was a fishing sight to behold!

Other medical fishermen who were among the early risers and dockside getting their boats fit for the day were Dr. Henry Jaeger, Dr. Ben Isaacson, Dr. Alvin Kay, Dr. Frank Ashburn and Dr. Sherman Thomas.

The trip out into the Atlantic Ocean from Ocean City began happily enough; however, The Albacore wasn't 30 minutes out of port before a pall of impenetrable fog settled down over the calm waters of the ocean. This out-of-its-environment cloud was so thick that The Kingfish was soon lost to sight a bare 200 yards ahead. This abominably vile gray wall of moisture made it necessary for The Albacore to slow down to a reasonable few knots per hour in order to prevent bumping or getting bumped. However, after another hour and a half of running time, the sun began to penetrate the murk, and by 10 a.m. the mist was gone like sin at a revival meeting, and the enticing rays of a warm sun encouraged the shedding of shirts and the serious business of fishing.

Dr. Ed Wilson was marlin-minded and had his Albacore set up for trolling with 4 lines skimming their dead whole-fish bait over the undulating waves. There was also present the "teasers," namely, 3 soft drink bottles tied with twine bouncing around in the wake of The Albacore. This attracts the marlin. Dr. Reeves and I had our feeble minds set on "eatin' fish"; therefore, we trolled with artificial lures, and before 3 p.m. we had pulled into the boat 20 good-sized bonito and dolphin, but nary a black tail fin broke the surface of the ocean near The Albacore.

* * * * *

Chuckle note: A woman gets married to make 2 people happy, herself and her mother. . . . The ideal wife is one who helps her husband with the dishes. . . . "I don't mind men who kiss and tell," the girl said; "at my age a little advertising is good." . . . It isn't necessarily the coldest girl who gets the mink.

J. Earl Kadan, M.D.

News and Personals

MEETINGS

Postgraduate Course No. 1, "Selected Topics in Internal Medicine," sponsored by the **American College of Physicians,** will be held at Georgetown University School of Medicine, September 28 through October 2, 1959. The meetings will be held in the new Gorman Diagnostic and Research Building auditorium. Co-directors of the course are from Georgetown—Dr. Hugh H. Hussey, Dean and Professor of Medicine, and Dr. Laurence H. Kyle, Professor and Chairman of the Department of Medicine. This course in internal medicine will range in subject matter from newer applications of the oldest diagnostic technic—auscultation of the heart—to the newest in diagnosis—metabolic disorders. Eminent guest speakers, from Boston to Richmond, will participate in the course as will 36 members of the Georgetown faculty.

Dean Hussey will give the opening remarks at the morning session, Monday, September 28. Dr. Harold J. Jeghers, Professor and Director of the Department of Medicine of Seton Hall College of Medicine, formerly of Georgetown, will participate in the morning program as will Dr. Wallace M. Yater, Director of the Yater Clinic, who is Secretary-General of ACP. Dr. Yater will speak on "When Is Heart Disease Compensable?"

There will be a registration fee of $60 for members of the College and $80 for non-members. All registrations must be made through the Executive Offices of the College, 4200 Pine Street, Philadelphia 4, Pa.

An added feature of the course, at no extra cost to registrants, will be the Symposium on Hemodialysis, sponsored by Travenol Laboratories, of Morton Grove, Illinois, for Saturday, October 3. Chairman of this Symposium will be Dr. George E. Schreiner, Associate Professor of Medicine at Georgetown.

The Insurance Committee of the Maryland-District of Columbia-Delaware Hospital Association will devote its sectional meeting to a discussion on impartial medical testimony during the Association's 19th Annual Conference at the Shoreham Hotel. The meeting will be held in the Terrace Room on Wednesday, October 28, from 10 a.m. to 12 noon.

Impartial medical testimony is a new concept which provides an unbiased guide for courts and juries to facilitate just verdicts and to expedite settlement or trial of personal injury cases. The importance of this concept was set forth in an editorial by the Honorable Alexander Holtzoff, Judge of the United States District Court for the District of Columbia, in an editorial which appeared in the August issue of the MEDICAL ANNALS.

An expert panel of leaders in the medicolegal field will be present to present their respective viewpoints. The speakers are: the Honorable Francis L. Van Dusen, United States District Judge, Eastern District of Pennsylvania; Dr. Preston A. Wade, Professor of Clinical Surgery, Cornell University; and Attorney Arthur H. Clephane, of Philadelphia, Counsel for the Medical Society of the State of Pennsylvania and the Philadelphia County Medical Society. Following the addresses the panelists will be queried by some outstanding interprofessional leaders, namely, Judge Holtzoff; Dr. Harold Stevens, Professor of Neurology, George Washington University; Dr. H. Thomas McGuire, President of the New Castle County (Delaware) Medical Society; Attorney Milton A. Albert, Vice President of the New Amsterdam Casualty Company, Baltimore; and Attorney David G. Bress, Past President of the District of Columbia Bar Association.

Presiding will be the Honorable Emory H. Niles, Chief Judge, Supreme Bench of Baltimore City, and Chairman of the Section of Judicial Administration of the American Bar Association.

Members of the Medical Society of the District of Columbia are cordially invited to attend this session of medicolegal collaboration.

Several Washington physicians will take part in the **Symposium on Evaluation of Early Diagnosis of Cancer,** to be presented by the **American Cancer Society** at the Biltmore Hotel, New York City, October 26–27. Chairman of the opening session on Monday will be Dr. Calvin T. Klopp, Director of the George Washington University Cancer Clinic. During the same session, Dr. I. Phillips Frohman, Washington, will speak on "The Changing Responsibility of the Practicing Physician."

In the afternoon session, October 26, Dr. Roger C. Baker, Professor of Urology, Georgetown University, will discuss "The Value of Periodic Examinations in Detection of Early Genitourinary Cancer." On the following day, Dr. Murray M. Copeland, Professor of Oncology at Georgetown, will present a paper on "Precancerous Lesions and How to Treat Them."

The Symposium features an outstanding faculty of authorities in the diagnosis and treatment of cancer, most of them from the Eastern Seaboard. The program is approved by the American Academy of General Practice for 12 hours of Category II credit for its members.

The Potomac-Shenandoah Valley Fourth Annual Postgraduate Institute, sponsored by the Eastern Panhandle Medical Society and the West Virginia Chapter of the American Academy of General Practice, will convene at the Shenandoah Hotel in Martinsburg, West Virginia, October 16–18, 1959.

Four fields of medicine will be represented, i.e., surgery, medicine, pediatrics, and obstetrics and gynecology, with excellent lecturers in each.

Dr. Brian B. Blades and Dr. Robert J. Coffey, Professor and Head of the Department of Surgery at George Washington and Georgetown Universities, respectively, will participate in the sessions on surgery, Friday afternoon, October 16. Dr. Joseph M. LoPresti, Associate Professor of Pediatrics, George Washington University, will be one of the speakers on Sunday morning, October 18.

General Chairman of the Institute is Dr. Halvard Wanger, Box 175, Shepherdstown, W. Va.

The course is approved for 15 hours of Category I credit for members of AAGP who attend the sessions.

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia met in regular session, July 27, 1959, with Chairman McLendon presiding. A contribution of $100 was voted to the Washington Board of Trade's Convention and Visitors Bureau in appreciation of its efforts to obtain medical meetings for Washington. The Bureau has lent clerical assistance to the Society on several occasions in connection with its own Annual Scientific Assembly.

Dr. Zigmond M. Lebensohn was appointed to represent the Society at the Sixth Annual Conference of Mental Health Representatives of State Medical Associations, to be held at the Drake Hotel in Chicago, November 20 and 21.

The Board approved the appointment of Dr. Paul R. Wilner, Chairman of the Society's Committee on Public Information, to attend the AMA's Public Relations Institute, which was held at the Ambassador West Hotel in Chicago, August 20–21. Theodore Wiprud and Lawrence A. Zupan, Secretary and Assistant Secretary of the Medical Society, respectively, also attended the Public Relations Institute and the one-day meeting of the Medical Society Executives Association which preceded the PR session.

President Dunn submitted the following committee appointments, which were approved by the Board: Dr. William P. McKelway, to succeed Dr. Lloyd G. Lewis, deceased, as Vice Chairman of the Committee on Cancer Control; Dr. Alfred Brigulio, Chairman of the Program Committee of the local Committee on Arrangements, AMA Clinical Session, to be held in Washington, D. C., in 1960.

The Board accepted the resignation of Dr. Milton L. Goldman as a member of the Committee on Public Policy.

Dr. W. Le Roy Dunn, President of the Medical Society, will be interviewed by 3 newspaper reporters on the program, "City Side," over Station WTOP-TV, Channel 9, on Saturday, October 3, at 12:30 p.m. Washington physicians will be interested in hearing the President of their Society present the views of the medical profession on current medical issues in an informal panel discussion.

The Section on Radiology of the Medical Society of the District of Columbia has recently elected new officers. They are:

Dr. George Tievsky, *Chairman;* Dr. Charles E. Bickham, Jr., *Vice Chairman*; and Dr. William E. Sheely, *Secretary-Treasurer.*

The George Washington University Medical Society elected new officers at its annual business meeting, July 1. They are:

Dr. Edward E. Ferguson, *President-elect*; Dr. F. Turner Reuter, *First Vice President*; Dr. Austin B. Rohrbaugh, *Second Vice President*; Dr. Marcus P. Goumas, *Secretary*; Dr. Naomi M. Kanof, *Treasurer*; and Dr. George Speck, *member of the Executive Council for a 3-year term.*

Dr. Frederick Y. Donn took office as President of the Society for 1959–60.

At the June meeting of the AMA House of Delegates, it was voted to send **dues-paying members of the AMA** one of its 10 specialty publications in addition to the *Journal of the A.M.A.*, the *A.M.A. News* and *Today's Health.* A letter with a business reply card will be sent to each AMA member informing him of the change and requesting him to tell which one of the specialty journals he wishes to receive. The 10 optional publications are the *Archives of Internal Medicine*, *Dermatology*, *Neurology*, *General Psychiatry*, *Pathology*, *Surgery*, *Otolaryngology*, *Ophthalmology*, *Industrial Health*, and the *Journal of Diseases of Children.*

The National Foundation for Independent Medical Research, a nonprofit organization, was incorporated in June 1959 in the District of Columbia. The aim of the organization is to continue research in the treatment and cure of vascular and pulmonary diseases and in particular to perfect a method of dissolving blood clots. Eventually the Foundation expects to underwrite research physicians for independent work in many fields. Dr. Kenneth M. Moser and Dr. Peter C. Luchsinger, both on the teaching staff of Georgetown University School of Medicine and Associate members of the District Medical Society, are sponsors of the new organization.

Howard University College of Medicine is setting up a complete medical service at D. C. General Hospital, to be known as the Howard Service, similar to the Georgetown and George Washington University Services at the Hospital. Announcement of the new Service was made, July 14, by Mr. Joseph K. Owen, Administrator of the Hospital.

The Howard Service will be headed by Dr. John B. Johnson, Professor of Medicine at Howard, who will be Chief of the Service. Dr. Charles S. Ireland, Assistant Professor of Medicine, will be Assistant Chief of Service, and Dr. Emile C. Nash, Associate Professor of Medicine, will be Chief Medical Officer. In addition there will be large consulting and attending staffs and 7 resident physicians.

The Howard Service will occupy the third floor of the medical building. Senior medical students, for several years, have been accepted for training at D. C. General Hospital.

Colonel Frank M. Townsend, M.C., U.S.A.F., has been appointed **Director of the Armed Forces Institute of Pathology,** succeeding Captain William M. Silliphant, M.C., U.S.N. Colonel Townsend is the first Air Force officer to assume the directorship of the Institute.

A native of Texas, Colonel Townsend received his medical degree from Tulane University. He joined the Army Medical Corps in 1940, but left after a few years to study and serve on the faculty of Washington University in St. Louis; later he taught pathology at the University of Nebraska and the University of Texas. He returned to military service in 1950 by enlisting in the Air Force and graduated from the School of Aviation Medicine at Randolph Air Force Base the same year. In 1951 he established the first Air Force histopathology center at Lackland Air Force Base, San Antonio, Texas, where he served until 1954.

In 1954 he became consultant to the Surgeon General of the Air Force and the next year was named Research Advisor to the Surgeon General. The same year he was appointed to the post of Air Force Deputy Director of AFIP.

Colonel Townsend is a Consulting Editor of the MEDICAL ANNALS.

Dr. John H. Talbott, Professor of Medicine at the University of Buffalo School of Medicine and Head of the Department of Medicine at Buffalo General Hospital, has been named Director of the Division of Scientific Publications and **Editor of the Journal of the American Medical Association,** effective October 20.

A graduate of Harvard University School of Medicine (1929), Dr. Talbott went abroad for postgraduate study, to Germany in 1932 and to Austria in 1937. He has been Editor of *Medicine*, a quarterly journal devoted to research, since 1948, and is the author of more than 100 medical papers and several books.

Dr. Talbott was commissioned a major in the Army Medical Corps in 1942. He served as chief of laboratory services of the Sixth General Hospital and as commanding officer and director of research of the Climatic Research Laboratory at Lawrence, Mass.

Dr. Talbott succeeds Dr. Johnson F. Hammond, who has been Editor of the J.A.M.A. since Dr. Austin Smith resigned in December 1958. Dr. Hammond has been on the *Journal* staff for 37 years and will continue as a staff member.

Colonel Charles H. Bramlitt, Deputy Director of Professional Services, Office of the Surgeon General, U. S. Air Force, will be **Secretary of the American Medical Association's Council on Scientific Assembly** when **Dr. Thomas G. Hull** retires December 31.

Colonel Bramlitt received his degree in medicine from Emory University He was commissioned in the regular Army Medical Corps in 1935 and has been in service since that time. He has served as Secretary of the Section on Military Medicine of the AMA Scientific Assembly.

Dr. Hull became the first full-time Director of AMA's Scientific Assembly in 1930 and will have completed 30 years' service when he retires. In 1946 the AMA gave him a gold medal for his contributions to the Scientific Exhibit. Among a host of friends who wish him many years of pleasant leisure are many Washington physicians who have worked with him in the display of their scientific projects at AMA Conventions.

Dr. Marvin E. Perkins, Chief of the Bureau of Mental Health of the D. C. Department of Public Health, announces the appointment of **Dr. William M. Hull** as **Chief of its Child Guidance Division.** Dr. Hull is an alumnus of the University of Pittsburgh School of Medicine (1945) and a diplomate of the American Board of Psychiatry and Neurology. He served for 2 years each as junior and senior physician of Boston State Hospital, from 1951 to 1954, and for 2 years following was a fellow in child psychiatry at the University of Cincinnati. During the past 3 years he has been Director of the Washington Institute of Mental Hygiene.

The National Institutes of Health have awarded 8 research grants totaling $91,308 to **George Washington University School of Medicine.** Dr. Edward Adelson and Dr. Jack J. Rheingold have been allocated $21,164 of these funds by the National Heart Institute and Dr. Marshall H. Jacobson and Dr. William Newman, $15,941. Dr. Rheingold will also participate in the direction of studies made possible by $4,531 in funds from the National Cancer Institute.

Georgetown University will receive an NIH grant of $350,000 for use toward construction of a new Science and Basic Health Research Building. The grant is to be matched by the University. Ground-breaking for the new science building, estimated to cost $3½ million, is scheduled for the spring of 1960.

PERSONALS

Dr. Joseph F. Fazekas, who retired as Chief of the Medical Staff of District of Columbia General Hospital, August 15, was honored at a testimonial dinner by the Hospital's medical staff at the Shoreham Hotel, July 30. Among those who paid tribute to him were: Dr. Daniel L. Finucane, Director of Public Health of the District of Columbia; Dr. Harold Stevens, Professor of Neurology, George Washington University; Dr. Robert Jason, Dean of Howard University School of Medicine; and Dr.

Howard Madigan, formerly Chief of Surgery at District General. The medical staff presented him with a gold-headed cane in recognition of his services.

Congratulatory notes were also read from Commissioners David B. Karrick and Robert E. McLaughlin; Senator John O. Pastore, of Rhode Island; and Representative Louis C. Rabaut, of Michigan. Dr. Fazekas has served as chief of staff for the past 10 years. He expects to teach and do research in neurology at the New England Medical Center in Boston.

Dr. I. Phillips Frohman was recently elected to the Executive Committee of the Academy of Psychosomatic Medicine. He has also been reëlected for the third time to represent the Section on General Practice of the American Medical Association in the Scientific Assembly of the AMA.

Dr. George E. Schreiner was reëlected Secretary-Treasurer of the American Federation for Clinical Research at its annual meeting, May 3, in Atlantic City, N. J.

Dr. Roy E. Ritts has been appointed Chairman of the Department of Bacteriology-Immunology and Tropical Medicine at Georgetown University School of Medicine.

Recently Dr. Ritts was elected to membership in the American Society of Experimental Pathology.

Dr. Lawrence S. Lilienfield was elected to fellowship in the American Association for the Advancement of Science in June. Dr. Lilienfield is also President of the D. C. Chapter of the American Federation for Clinical Research and was appointed Councillor of the Eastern Section of the Federation.

Dr. John Renner and Dr. Herbert S. Gates, Jr., both of Arlington, Va., and Resident-Intern members of the D. C. Medical Society, are among 6 physicians who will own and operate the Herndon (Va.) Medical Center, which opened July 1. The other physicians are Drs. Frederick Hubach, Joseph W. Linhart, Robert Sullivan, and Owen C. Shull. The latter's father, Dr. Ernest C. Shull, an Associate member of the District Medical Society, died, May 7, after practicing in Herndon for 32 years. All 6 physicians were medical students at George Washington University School of Medicine in 1957 when plans were laid for the Center in Herndon. Dr. Renner finished his internship at George Washington Hospital, July 1, and will act as Administrator of the Center. Dr. Gates will spend 3 years in residency in obstetrics at Norfolk before he becomes associated full-time with the Center. During his training period he will act as consultant and will practice part-time at the Center.

The new Medical Center held open house on Sunday, June 28. Dr. John L. Parks, Dean of George Washington University School of Medicine, spoke at the dedicatory ceremonies in the afternoon.

Dr. Peter N. Lombard, of Silver Spring, an Affiliate member of the Medical Society, has been named Chairman of the Kiwanis Club's International Education and Fellowship Committee.

Dr. Michael M. Miller, Associate member of the Medical Society, is the new President of the American Association for Social Psychiatry.

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

A Doctor Speaks His Mind. Roger I. Lee, M.D. Price, $3.00. Pp. 120. Boston: Little, 1958.

The Power of Sexual Surrender. Marie N. Robinson, M.D. Price, $4.50. Pp. 263. Garden City, N. Y.: Doubleday, 1959.

Synopsis of Ear, Nose, and Throat Diseases. Robert E. Ryan, B.S., M.D., M.S. (ALR), F.A.C.S., Department of Otolaryngology, St. Louis University School of Medicine; Associate Otolaryngologist, St. John's Hospital, St. Louis; Assistant Otolaryngologist, Cardinal Glennon Hospital for Children and St. Louis University Group of Hospitals, St. Louis; Diplomate, American Board of Otolaryngology; Former Fellow of Mayo Clinic, Rochester, Minn.; William C. Thornell, A.B., B.M., M.D., M.S. (ALR), F.A.C.S., Assistant

Professor, Department of Otolaryngology, Cincinnati College of Medicine, University of Cincinnati; Staff Member, Cincinnati General Hospital, Good Samaritan Hospital, Deaconess Hospital, St. Francis Hospital, and St. Mary's Hospital, Cincinnati; Diplomate, American Board of Otolaryngology; Former Fellow and Member of the Staff of Mayo Clinic, Rochester, Minn., AND HANS VON LEDEN, M.D., F.A.C.S., F.I.C.S., Assistant Professor of Otolaryngology, Northwestern University Medical School, Chicago; Associate Professor of Otolaryngology, Cook County Graduate School of Medicine, Chicago; Medical Director, The William and Harriet Gould Foundation, Chicago; Attending Otolaryngologist, Chicago Wesley Memorial Hospital and Cook County Hospital, Chicago, and St. Francis Hospital, Evanston, Ill.; Consultant in Otolaryngology, United States Naval Hospital, Great Lakes, Ill.; Diplomate, American Board of Otolaryngology; Former Fellow of Mayo Clinic, Rochester, Minn. Price, $6.75. Pp. 383. St. Louis: Mosby, 1959.

Anesthesia for Infants and Children. ROBERT M. SMITH, M.D., Anesthesiologist, The Children's Medical Center, Boston, Mass.; Assistant Clinical Professor of Anesthesia, Harvard Medical School; Consultant in Anesthesia, U. S. Naval Hospital, Chelsea, Mass. and Lemuel Shattuck Hospital, Jamaica Plain, Mass. Foreword by Robert E. Gross, M.D. Price, $12.00. Pp. 418, with 182 illustrations. St. Louis: Mosby, 1959.

Principles of Disability Evaluation. WILMER CAUTHORN SMITH, M.D., Chief Medical Advisor, Oregon State Industrial Accident Commission; Fellow, American Association for the Surgery of Trauma. Price, $7.00. Pp. 210. Philadelphia: Lippincott, 1959.

Love and Marriage in a Changing World. JAMES LYMAN WHITNEY, M.D. Pp. 477. San Francisco: Parker Printing Company, 1958.

LEWIS CHARLES ECKER, M.D., F.A.C.P.

(1883-1959)

Dr. Lewis C. Ecker, a Life member of the Medical Society of the District of Columbia, died at his summer home and birthplace in Fayetteville, New York, August 10, 1959. He was a familiar figure among Washington physicians and was held in highest esteem by his colleagues during a practice which extended over 50 years.

Dr. Ecker was born, May 23, 1883 to John A. and Ida Beard Ecker. His medical degree was obtained in 1906 from Syracuse University Medical School. As intern and resident physician he spent 3 years at New York City Hospital and a year at the Medical Clinic in Munich, Germany. He began practicing in the District of Columbia in 1909.

Dr. Ecker specialized in internal medicine. He was senior attending in medicine at old Garfield Memorial Hospital and was on the emeritus staff of the Washington Hospital Center at the time of his death.

During World War I Dr. Ecker served in the Medical Corps of the Army and held the rank of Major. From 1912 to 1924 he was Associate Professor of Medicine at Howard University School of Medicine, and from 1930 to 1942 he was Associate Professor of Clinical Medicine at Georgetown University School of Medicine.

In 1911 he was elected to membership in the Medical Association of the District of Columbia, which amalgamated with the D C. Medical Society the same year. He became a Life member in 1952. He was a Fellow of the American College of Physicians and a diplomate of the American Board of Internal Medicine. He was also a member of the Clinico-Pathological Society and of the Chevy Chase Club.

His wife, Mrs. Marguerite Welles Ecker, died in 1955. Since that time he has made his home with his nephew, Dr. Henry D. Ecker, an Active member of the Medical Society, at 3701 Upton Street, N.W. For the past 6 months he had been associated in practice with his nephew at 917 20th Street, N.W. For many years Dr. Ecker maintained both home and office at 1725 N Street, N.W.

ELWIN CARL SCHNEIDER, M.D.

(1880-1959)

Dr. Elwin C. Schneider, an Active member of the Medical Society of the District of Columbia, died June 11, 1959, at his home, 1606 Abingdon Drive, Alexandria, Va.

Dr. Schneider was a native of Alexandria, born March 7, 1880, to Justus and Elizabeth Howard Schneider. After attending the public schools in Alexandria, he enrolled for medical study at Georgetown University. He graduated from Georgetown in 1905 and interned at Georgetown Hospital.

Dr. Schneider began his general practice in the District of Columbia in 1906. His offices for many years were at 7508 Alaska Avenue, N.W., and later at 1420 Mt. Vernon Blvd. in Alexandria.

He was a member of the American Medical Association and an Active member of the District Medical Society from 1908 to 1921 and from 1925 until his death.

Surviving him is his wife, Mrs. Celina C. King Schneider.

ARTHUR GEORGE COMPTON, M.D.
(1881-1959)

Colonel Arthur G. Compton, M.C., U.S.A., an Associate member of the Medical Society of the District of Columbia, died, June 19, 1959 at Walter Reed Army Hospital. Colonel Compton had been retired for physical disability since November 30, 1955.

Dr. Compton was born in Washington, D. C., November 2, 1881. His parents were George and Virginia Compton. After graduating from old Central High School, he enrolled for medical study at George Washington University, receiving his degree in 1907. He interned at Garfield Memorial Hospital and at Children's Hospital, for a year each, and was resident physician at D. C. Tuberculosis Hospital from 1910 to 1914.

Continuing in the field of tuberculosis, Dr. Compton was Superintendent of the Wisconsin State Tuberculosis Sanitarium, 1914–15, and the next year was senior physician at the Chicago Municipal Tuberculosis Sanitarium.

With the entrance of the United States into World War I, he enrolled for active duty as First Lieutenant in the Medical Reserve Corps of the Army in 1917. In 1920 he transferred to the Regular Army and was promoted successively until he held the rank of Colonel in 1943. Following his retirement for physical disability 2 years later, he went to his home at 2204 Delaware Avenue, Wilmington, Delaware, where he practiced until 1955. Since then he has resided in Washington with his sister, Mrs. E. C. McCormick, who survives him, at 3512 Runnymede Place, N.W.

Colonel Compton was a member of the American Medical Association and the National Tuberculosis Association. In 1917 he was elected to Active membership in the District Medical Society and continued his membership until 1928. From 1934 to 1946 and again from 1955 on, he was affiliated with the D. C. Medical Society as an Associate member.

VICTOR BELL RENCH, M.D.
(1870–1959)

Dr. Victor B. Rench, specialist in the treatment of diseases of the eye, ear, nose and throat, who practiced in Washington for more than 50 years, died, June 5, 1959, at the Washington Sanitarium in Takoma Park, Md., where he had been a patient for 2 years.

Dr. Rench was born in Frederick County, Md., October 29, 1870. He graduated in medicine from Columbian (now George Washington) University in 1895 and began practice in the District of Columbia the following year. From 1897 to 1899 he was in resident training at Baltimore Eye, Ear and Throat Hospital. He joined the staff of Episcopal Eye, Ear and Throat Hospital of Washington in 1910 and served on the staff until his retirement about 10 years ago.

Dr. Rench was elected to Active membership in the Medical Association of the District of Columbia, which later merged with the Medical Society, in 1910 and resigned from the latter in 1939.

He was a 32nd degree Mason, a member of the Mt. Pleasant Lodge, Past Grand Patron of the Eastern Star, and a Shriner. He was a member of the official board of Foundry Methodist Church.

He is survived by a daughter, Mrs. F. Nelson Reeve, 5029 Cathedral Avenue, N.W., and a son, Robert B. Rench, of the home address, 3757 Benton Street, N.W.

Paraflex for Spasticity—Mayle, Sullivan and Auth

(*Continued from page 501*)

SUMMARY AND CONCLUSION

A short history of the development of muscular relaxants or "lissive" agents has been reviewed. A method of evaluation of these medications is presented. Chlorzoxazone (Paraflex) appears to be an effective agent in the relief of spasticity and spasms due to spinal cord disease. It was given in doses from 125 to 500 mg. 3 to 4 times a day. Ten of 12 patients with spinal cord disease showed improvement of spasticity. Continued studies on a larger series of patients appears warranted and is necessary before its specific value can be ascertained.

BIBLIOGRAPHY

1. Berger, F. M.: Mode of action of myanesin. Brit. J. Pharmacol., 1947, **2**, 241.
2. Wright, E. B.: Effect of mephenesin and other 'depressants' on spinal cord transmission in frog and cat. Am. J. Physiol., 1954, **179**, 390.
3. Spiegel, E. A., and Wycis, H. T.: Effect of 3-orthotoloxy-1,2-propanediol (tolserol, myanesin) upon electrogram of human cortex and subcortex. Proc. Soc. Exper. Biol. & Med., 1949, **72**, 446.
4. Basmajian, J. V., and Szatmari, A.: Chlorpromazine and human spasticity; electromyographic study. Neurology, 1955, **5**, 856.
5. Kamijo, K., and Koelle, G. B.: 2-Amino-5-chlorobenzoxazole (McN-485, Flexin), long-acting spinal cord depressant. Proc. Soc. Exper. Biol. & Med., 1955, **88**, 565.
6. Amols, W.: Clinical experience with new muscle relaxant, zoxazolamine; preliminary report. J.A.M.A., 1956, **160**, 742.
7. Reed, E. B., Feichtmeir, T. V., and Willett, F. M.: Zoxazolamine; potent uricosuric agent; preliminary report. New England J. Med., 1958, **258**, 894.
8. O'Doherty, D. S., and Shields, C. D.: Methocarbamal; new agent in treatment of neurological and neuromuscular diseases. J.A.M.A., 1958, **167**, 160.
9. Paraflex (Chlorzoxazone), a New Specific for Painful Muscle Spasm. Special Report No. DCI-571023. Philadelphia: McNeil Laboratories, Inc., Div. Clin. Invest., 1958.
10. Sanchez-Longo, L., and Kurth, L.: Personal communication.

Postoperative Use of Demerol-Lotusate—Gordon

(*Continued from page 503*)

BIBLIOGRAPHY

1. Papper, E. M., and Rovenstine, E. A.: Management of pain in aged. Geriatrics, 1946, **1**, 420.
2. Bonica, J. J., and Backup, P. H.: Control of cancer pain. Northwest Med., 1955, **54**, 22.
3. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics: A Textbook of Pharmacology, Toxicology, and Therapeutics for Physicians and Medical Students, 2nd ed. New York: Macmillan, 1955, pp. 261, 264, 267, 297, 313.
4. Ercoli, N., and Lewis, M. N.: Study on analgesics; time-action curves of morphine, codeine, Dilaudid and Demerol by various methods of administration; analgesic activity of acetylsalicylic acid and aminopyrine. J. Pharmacol. & Exper. Therap., 1945, **84**, 301.
5. Lasagna, L., and Beecher, H. K.: Analgesic effectiveness of codeine and meperidine (Demerol). Ibid., 1954, **112**, 306.
6. Noth, P. H., Hecht, H. H., and Yonkman, F. F.: Demerol: new synthetic analgetic, spasmolytic, and sedative agent; clinical observations. Ann. Int. Med., 1944, **21**, 17.
7. Tainter, M. L., and Buchanan, O. H.: Comparison of certain actions of Demerol and methadone. California Med., 1949, **70**, 35.
8. Waggener, R. E., and Grissom, R. L.: Clinical studies on new synthetic hypnotic WIN 5095 (Lotusate). Nebraska M. J., 1955, **40**, 245.
9. Data in files of Medical Research Dept., Winthrop Laboratories, New York 18, N. Y.

Mass Otologic Screening—Albrite, Galloway and Shutts

(*Continued from page 505*)

BIBLIOGRAPHY

1. Army Regulations No. 40-105, Medical Service—Standards of Physical Examination for Commission or Warrant in Regular Army, National Guard of The United States Army of The United States, and Organized Reserve Corps.

Hepatic Cirrhosis due to Sarcoidosis—Cheitlin and Sullivan

(*Continued from page 509*)

8. Wagoner, G., Freiman, D. G., and Schiff, L.: Ibid., 1953, **25**, 574.
9. Dagradi, A. E., Sollod, N., and Friedlander, J. H.: Ann. Int. Med., 1952, **36**, 1317.
10. Mino, R. A., Murphy, A. I., Jr., and Livingstone, R. G.: Ann. Surg., 1949, **130**, 951.
11. Fraimow, W., and Myerson, R. M.: Am. J. Med., 1957, **23**, 995.
12. Lebacq, E., Pluygers, E., and Tirzmalis, A.: Rev. med. chir. mal. foie, 1956, **31**, 31.
13. Dunlap, R. W., Jr., Hallenbeck, G. A., and Hanlon, D. G.: Proc. Staff Meet., Mayo Clin., 1952, **27**, 266.
14. Raven, R. W.: Ann. Roy. Coll. Surgeons England, 1949, **5**, 3.
15. Schaumann, J.: Brit. J. Dermat., 1936, **48**, 399.
16. Kraus, E. J.: J. Lab. & Clin. Med., 1942, **28**, 140.

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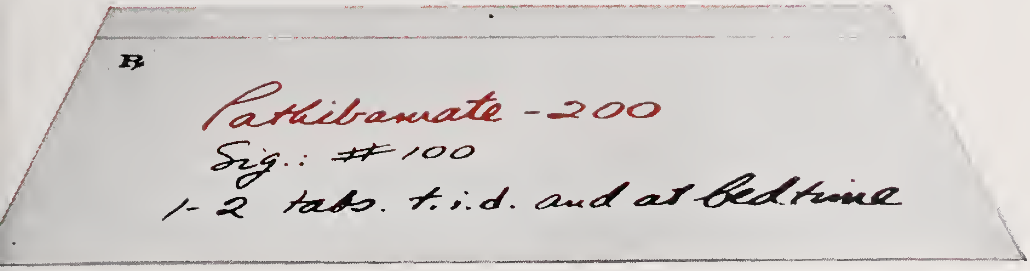
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Book Reviews

Medical Department, United States Army: Surgery in World War II. Neurosurgery, Volume I. Editor in Chief: COLONEL JOHN BOYD COATES, JR., M.C.; Editors for Neurosurgery: R. GLEN SPURLING, M.D., AND BARNES WOODHALL, M.D.; Associate Editor: ELIZABETH M. MCFETRIDGE, M.A. Prepared and published under the direction of MAJOR GENERAL S. B. HAYS, The Surgeon General, United States Army. Price, $5.00. Pp. 466. Washington, D. C.: Superintendent of Documents, U. S. Government Printing Office, 1958.

This is the first of 2 volumes devoted to neurosurgery by an impressive group of authors. The first part of Volume I (1 chapter, 82 pages) deals with administrative details and the history of the organization of the neurosurgical sections in World War II. This section is not only of great historical interest but important in the planning of neurosurgical coverage in future conflicts.

The second part of Volume I deals with the management of head injuries in the Zone of Interior, the European, and the Mediterranean theaters of operation. Treatment of scalp wounds, fractures of the skull, penetrating wounds of the brain, and blast concussion are carefully and clearly presented. Individual chapters devoted to each of the following topics are included: penetrating wounds of the cerebral ventricles; infection following acute gunshot wounds of the brain; cranioplasty; post-traumatic epilepsy; speech disorders resulting from gunshot wounds of the head and neck; and clinicopathologic aspects of fatal missile-caused craniocerebral injuries.

This volume is very well illustrated. It reads easily and documents the experience gained from the treatment of a large number of craniocerebral injuries by an extremely capable group of neurosurgeons.

It certainly should be included in the personal library of every neurosurgeon as well as all institutional medical libraries. Volume II, dealing with peripheral nerve and spinal injuries, will soon be available. Advances resulting from these experiences are among the few benefits mankind derives from war.

HUGO V. RIZZOLI, M.D.

Diseases of the Nose, Throat, and Ear, 2nd ed. Edited by CHEVALIER JACKSON, M.D., Sc.D., LL.D., L.H.D., F.A.C.S.,* AND CHEVALIER L. JACKSON, M.D., M.Sc., F.A.C.S. With the collaboration of 61 outstanding authorities. Price, $20.00. Pp. 886, with 1193 illustrations. Philadelphia: Saunders, 1959.

The first edition of this comprehensive textbook was published in 1945. This second edition reflects the progress in otolaryngology in the interim. The text has been entirely rewritten. In many instances new articles by new authors have been substituted for parts of the first edition. For example, the complete work on all types of sinusitis has been brought together by O. E. Van Alyea and discussed in a carefully organized manner. Several new sections have been added. There is a 70-page chapter on Corrective Plastic Surgery of the Nose by John M. Converse. A new section on Tumors of the Nose and Sinuses has been written by Frazell and Lewis. There is an enlightening section dealing with Traumatic Maxillary Surgery by Brown and McDowell illustrating the results obtained by using their technics. Thus, this compendium covers otoloaryngology in its widest application: from the anatomy of the ear to foreign bodies in the air and food passages.

To produce so complete a work in reasonable size, chapter-head sinkage and chapter-end blanks have been eliminated and certain chapters, including the section on General Considerations, found in the first edition, have been dropped. No compromise, however, has been made with essential completeness and certainly none in illustration. There are 1,193 pictures, 645 figures, and 16 color plates in the sections on endoscopy. These last are reminiscent of those wonderful blackboard drawings Dr. Jackson used to make with colored chalk to describe lesions as seen through the 'scopes in his international postgraduate sessions. Many chapter ends include very salient bibliographies.

The list of contributors includes a large number of members of the American Board of Otolaryngology plus leading exponents of allied fields, such as James Barrett Brown for plastic surgery and French K. Hansel in allergy.

There is not a large selection of up-to-date comprehensive texts of otolaryngology. This one fills a very definite need and will be put to good use by graduate students, teachers, and practitioners of the specialty, as well as those in allied fields.

ALGER B. DOLAND, M.D.

Pediatric Neurology. STANLEY S. LAMM, M.D. Price, $12.90. Pp. 495. New York: Landsberger, 1959.

This is a standard enumeration of neurological syndromes in a conventional scheme suggestive of the technic employed in an "organized" lecture series. Thus, it is unrelieved by any style of writing or by graphic illustrations, pictorial or verbal. An inordinant amount of space is given to cerebral palsy and mental retardation, while

(*Continued on page 58*)

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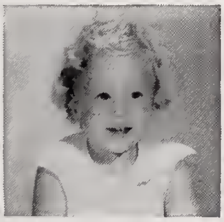

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Book Reviews

(*Continued from page 54*)

the more recently evolved clinical syndromes, such as the toxic-metabolic states, are given brief reference. Differential diagnosis is minimized.

The book is poorly edited. The rare pictures are much too few, poorly selected, poorly composed, and poorly reproduced. Not a single EEG tracing is demonstrated; in fact, EEG is not even listed in the index.

An even more egregious fault is in the recommendation of the less acceptable and even dangerous therapeutic measures without adequate qualifications. For example, the dangers and limitations of surgical treatment of epilepsy are not spelled out; intravenous and intramuscular route for paraldehyde is recommended but there is no mention of the danger of severe respiratory depression, or the very great danger of a deep slough from injection of paraldehyde into soft tissue.

The serious danger (and deaths) from phenurone is not stressed. The recommendation of surgery in Bell's palsy after 2 months is unjustified. In pseudotumor cerebri the author implies that "in most cases decompression is performed to relieve pressure"; this is an unwarranted generalization. The use of pitressin to produce hydration and grand mal seizures is archaic and dangerous.

Anticoagulant therapy is recommended for cerebrovascular accidents in a cavalier fashion but without reference to the technic and complications.

Conversely, relatively little is said about the postmeningitic subdural neomembrane and the occasional necessity for surgical treatment. In discussing the treatment of hysteria the surprising statement is found, "in special instances psychiatric treatment may be required."

Rewriting of this text, preferably by a neurologist, might salvage this publication.

Harold Stevens, M.D.

Practical Dermatology, 2nd ed. George M. Lewis, M.D., F.A.C.P. Pp. 363, with 121 illustrations. Philadelphia: Saunders, 1959.

Practical Dermatology by Lewis is an extensive outline of dermatology, especially designed for the general practitioner or medical student. For the general practitioner, it is an excellent compend, but for the medical student I would consider it only as an adjunct to a standard text.

The book is extremely readable, with the text material arranged in logical sequence, and illustrated so well that it permits the reader to become well oriented, although superficially, in the dermatologic field. The most common dermatosis, acne vulgaris, is the first one discussed in the book and other dermatoses follow in relation to their frequency and importance.

Although the entire dermatologic field is covered by this text, it is done concisely and accurately. The confusion of references is deleted and for the most part only positive facts are dealt with. The book is valuable as a quick reference for those without extensive training in dermatology. It would be a valuable inclusion in the library of a practitioner in any of the various general and specialized fields of medicine.

In addition to a discussion of the various major dermatologic entities, brief chapters are devoted to terminology, diagnostic methods, and basic dermatologic sciences. A formulary of therapeutic agents to be used in various dermatologic entities is especially well designed for quick reference and application.

Murry M. Robinson, M.D.

General Urology, 2nd ed. Donald R. Smith, M.D. Illustrated by Ralph Sweet. Price, paper, $4.50. Pp. 328. Los Altos, Calif.: Lange, 1959.

This is the second edition of a basic urology text. It is limited in scope but fulfills the limits for which it was written. Essentially, it is a survey of important urologic problems, designed for medical students and nonurologic practitioners. After an initial presentation of basic urologic anatomy, physiology, symptomatology and radiology, the text proceeds to descriptions of various groups of urologic entities. Each section is divided into an orderly presentation of the disease entity which includes etiology, pathology, clinical findings, differential diagnosis, treatment and prognosis.

A few areas show some significant omissions. The section on bladder cancer does not include some recent material on treatment and other basic material on pathology. The section on benign prostatic hyperplasia contains some extremely controversial data especially with relation to the conservative management and the indications for various surgical treatment. The section on function tests contains some data of value but requiring elaboration and further study by the student. Two new chapters have been added, one on intersex problems and the other on urologic aspects of hypertension. These are major and complicated problems and the chapters present some important factual data and introduce the reader to the evaluation of these subjects.

The bibliography, though lacking some major urologic references, is current, quite adequate, and covers the subject well.

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CHEMOTHERAPEUTIC MANAGEMENT OF ADVANCED OVARIAN CARCINOMA*

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CHEMOTHERAPEUTIC agents have an established role in the chronic therapy of certain lymphomas and leukemias, but until recently comparable management of solid tumors did not appear possible. Although an occasional case of prolonged control in ovarian cancer with triethylene melamine[1] and with methyl-bis (beta chloroethyl)-amine hydrochloride[2, 3] has been reported, the terminal trial of a medical cytotoxic agent all too often has assumed the role of a final grand gesture to the patient or a tour de force in the name of science.

In 1956 a preliminary report was made on the use of N, N′, N″ triethylene thiophosphoramide (ThioTEPA) for the maintenance therapy of advanced ovarian neoplasms.[4] The 22 patients described in that study are included in the present report. ThioTEPA had several distinct advantages over other related alkylating agents in that, being nonvesicant, it could be administered by any route; it did not produce ulceration or necrosis of tissue and it was clinically practically nontoxic. Although ThioTEPA is a hematopoietic depressant, if given no more frequently than once weekly the effect on the blood count usually can be controlled. The present report concerns 96 cases of advanced ovarian cancer treated with ThioTEPA for periods ranging from 1 to 61 months. Because the action of ThioTEPA is probably somewhat slower than that of other alkylating agents, its effect on a given tumor cannot truly be evaluated in less than 4 weeks. A few additional patients, who expired in less than 1 month following institution of therapy, therefore have been excluded.

Table 1 lists the number of patients by age and histologic type of cancer. The average age in this group is 54 years, with a range of 30 to 88 years. The 3 patients having a diagnosis of malignant dysgerminoma were in their early thirties. Patients with papillary serous cystadenocarcinoma tended to be slightly younger than patients with other histologic types of ovarian cancer. This group is of interest also in that 11 are living as compared to 7 dead or lost to follow-up. The ratio is reversed in all other groups.

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* Read before the medical staff of Columbia Hospital for Women in Washington, D. C., February 13, 1959.

TABLE 1

Ovarian Carcinoma Treated with ThioTEPA

	Number	Age Range	Average Age (Years)
Total	96	30–88	54.0
Living	31	34–80	53.6
Died or lost to follow-up	65	30–88	54.2

Type Tumor	Total Number	Living	Average Age (Years)
Papillary serous cystadenocarcinoma	18	11	50.5
Pseudomucinous cystadenocarcinoma	13	1	56.6
Adenocarcinoma	34	11	58.7
Papillary adenocarcinoma	16	3	54.9
Undifferentiated carcinoma	6	2	55.3
Granulosa cell carcinoma	5	2	52.8
Malignant dysgerminoma	3	1	33.4
Malignant mixed mesodermal carcinoma	1	0	45.0

Table 2 lists therapeutic procedures used in these patients prior to chemotherapy. Biopsy of peripheral metastases included cervical node, 5 cases; inguinal nodes, 2 cases; breast nodules, 2 cases; rectal lesion, 1 case; and rectal and vaginal lesions, 1 case. In 92 patients resection of disease was achieved, in 6 cases on 3 occasions. Sixteen patients had exploratory laparotomy and biopsy; some had already sustained definitive surgery. Thirty patients had received irradiation therapy, 2 had had intracavitary radioactive gold, and in 1 case there was implantation of radon seeds at a second laparotomy. Diagnosis was made by peritoneal tap in 1 case. Thoracentesis was necessary in 6 patients from 1 to 4 times prior to chemotherapy. Four patients had had courses of testosterone; in one patient a course of stilbestrol was tried. One patient had resorted to the Hoxsey treatment.

TABLE 2

Procedures Prior to Chemotherapy in 96 Cases of Ovarian Carcinoma

	Died—56; Lost to Follow-up—9	Living—31
Surgery		
Biopsy of peripheral metastases	6	5
Exploration and biopsy	11	5
Resection of tumor:		
1 time	33	15
2 times	14	8
3 times	3	3
X-ray Therapy		
1 time	21	6
2 times	3	0
Radioactive Gold	1	1
Radon seed implantation	0	1
Peritoneal tap	1	0
Pleural tap		
1 time	2	1
2 times	2	0
4 times	0	1
Testosterone	4	0
Stilbestrol	1	0
Hoxsey	1	0

The time of institution of chemotherapy is given in table 3. In 12 patients residual tumor was injected at operation prior to closure. In 4 cases ThioTEPA was administered into the abdominal cavity through a small indwelling polyethylene cannula which was left in place at surgery. The tubing was removed following instillation of drug which was achieved within the following week. Therapy was started within 2 weeks of operation in 28 cases. In 52 patients chemotherapy was instituted for advanced uncontrolled tumor.

TABLE 3

Time of Institution of Chemotherapy in 96 Patients with Advanced Ovarian Carcinoma

	Patients Living	Died or Lost to Follow-up
At Operation		
Primary surgery	9*	5
Surgery for recurrence	2	0
Postoperatively (within 2 weeks)		
Primary surgery	6	17
Surgery for recurrence	1	4
For uncontrolled or recurrent neoplasm	13	39
TOTAL	31	65

* In 4 cases ThioTEPA was administered through polyethylene tubing left in place at operation.

Table 4 lists the known extent of disease at the time of institution of chemotherapy in these patients. Only 1 patient, in whom there were bilateral ovarian tumors and in whom the surgeon thought that some tumor had been left behind, could be considered as belonging to Class I or Group II[5, 6, 7], or to Class III,[8] according to Henderson. The majority of these patients best fitted into Group IV by any classification. With the exception of the single patient mentioned above no patients falling into the so-called favorable groups were treated.

TABLE 4

Ovarian Carcinoma—Known Extent of Disease at Institution of Chemotherapy

96 Cases

	Living	Died
Pleural Effusion		
Unilateral*	2	9
Bilateral	2	4
Ascites*	10	20
Abdominal carcinomatosis	14	20
Abdominal mass	17	23
Pelvic mass	4	24
Metastases Specifically Listed		
Bowel	2	6
Omentum	4	4
Peritoneum	2	5
Mesentery	2	2
Stomach	1	1
Periaortic node	0	1
Liver	5	8
Diaphragm	1	2
Umbilicus	1	1
Breast	2	2
Lung	0	3
Inguinal nodes	0	3
Supraclavicular nodes	1	7
Kidney	1	1
Bladder	2	2
Uterus	0	3
Vagina	0	2

* Chylous in 2 cases

ThioTEPA obtained in the crystalline form* was dissolved in pyrogen-free water, 10 mg. per 1 ml., sterilized by filtration and stored at icebox temperature. It was administered undiluted by the intratumor, transabdominal, transvaginal, intrapleural, intrapericardial or intravenous routes. Local injection of drug into tumor sites was achieved whenever possible. Since studies with radio-tagged drug indicate that approximately one-half of such a dose promptly enters the blood stream,[9] a local and systemic effect is achieved in 1 treatment. The intravenous route was used when there was no accessible palpable or visible tumor. A smaller dose was employed for the latter route due to the full impact of systemic therapy on the bone marrow. Oral therapy in the form of 5 mg. capsules was employed only in order to maintain therapy in patients who were out of town on vacation trips.

Unless patients demonstrated diminution of renal reserve secondary to age, cardiovascular disease, chronic renal disease or obstructive uropathy, the initial dose of ThioTEPA was 60 mg. If the drug was given by the intravenous route 20 mg. was administered. Subsequent dosage was determined by the white blood cell count which was obtained immediately prior to each treatment. The dose was reduced in the presence of a falling white blood cell count and omitted if the latter dropped below 2,000 to 3,000. Therapy was pushed rather energetically in most cases in an effort to get ahead of the disease. The drug was administered initially at weekly intervals. If the patient did well the interval was gradually increased up to 4 to 6 weeks.

Table 5 lists the average total dose in these patients as well as the range. Also listed is the average duration of therapy, 14.5 months in the living group and 7.1 months in the patients who expired or were lost to follow-up. Because discontinuation of therapy always resulted in difficult and sometimes uncontrollable recurrence it was considered wise to maintain treatment indefinitely.

Supplemental therapy was employed in many patients but in none with expected effect on the tumor itself. Small doses of long-acting adrenocorticotropic hormone and cortisone helped general nutrition and maintenance of hematopoietic integrity. They also probably prevented hemolytic crises which occasionally are seen in cancer patients and which have been attributed to auto-immunization. In my experience hydrocortisone, prednisone, prednisolone and other new adrenocortical agents were not as satisfactory as cortisone. Supplemental therapy with testosterone in 5 cases was tried in an effort to raise the blood count. Only undesirable masculinizing effects were achieved. Vitamins except for ascorbic acid were avoided unless specific deficiencies existed because of a possible tumor-stimulating effect (especially in the case of B_{12}).

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* Through the courtesy of Dr. James Ruegsegger of the Lederle Laboratories, Division of the American Cyanamid Company, Pearl River, New York.

TABLE 5

Ovarian Carcinoma Treated with ThioTEPA

	No.	Total Dose in Milligrams		Duration in Months	
		Average	Range	Average	Range
Living	31	598	100–1,590	14.5	1.5–61.0
Died	65	434	95–940	7.1	1.0–20.0
Total	96	485	95–1,590	9.5	1.0–61.0

Routes: Transabdominal, transvaginal, intrapleural, intrapericardial (1 case), intravenous, oral, and at time of surgery.

NOTE: Therapy given at 1- to 6-week intervals.

Supplemental therapy: Hormones: ACTH, cortisone (hydrocortisone, Meticorten), testosterone (5 cases). Tranquilizers: Marsilid, meprobamate, Thorazine. Transfusions if hemoglobin less than 7.0 Gm. Antibiotics for infection.

Tranquilizers were useful, but thorazine usually was reserved for terminal situations. Rarely was an analgesic stronger than hydrocodeinone required. Antibiotics were employed only in the presence of specific infection. Transfusions of whole blood or red blood cells were given when the hemoglobin fell below 7.0 Gm. per cent.

Subjective improvement was frequently manifest by decrease in pain and increase in well-being. However, since such results are difficult to evaluate, only objective improvement and survival time have been used in determining response to therapy. Table 6 lists the types and duration of objective response seen in these patients. Slowing of disease and prevention of progression were considered to have been achieved in many cases but are not listed. Only cases in which obvious gross regression of demonstrable tumor was seen are given. Control of pleural effusion secondary to pleural metastases was one of the most gratifying results of chemotherapy with ThioTEPA and has been reported elsewhere.[10] Control of ascites was less frequently seen and lasted for shorter periods of time.

TABLE 6

Objective Improvement in Patients with Ovarian Carcinoma Treated with ThioTEPA

Type of Improvement	No. Cases	Duration (Months)	Average (Months)
Control of pleural effusion	11	2–36	12.1
Control of ascites	10	1–14	5.8
Regression of demonstrable tumor	23	2–61	14.1

Survival times are given in table 7. Nine patients who were lost to follow-up are considered as dead in this tabulation. Survival time in the expired and lost to follow-up group averages 8.3 months, with a range of 1 to 23 months. Thirty-one patients are surviving 2 to 61 months with an average of 15.1 months following institution of chemotherapy. Thirteen patients are in their second to sixth year of therapy. A great effort was made in all cases to return each patient to his previous working status, and treatment was continued on an outpatient basis. Most of the survival time achieved was therefore good. When disease became uncontrollable treatment was stopped and the patient was hospitalized for a short-terminal episode.

In a further effort to evaluate the survival time of the patients in this series, the Cumulative Life Table Method as described by Cutler and

TABLE 7

Survival Following Institution of Chemotherapy for Ovarian Carcinoma

	Number	Average (Months)	Range (Months)
Living	31	15.1	2–61*
Died or lost to follow-up	65	8.3	1–23

*Years of Therapy	Number
6	1
5	2
4	1
3	1
2	8
TOTAL	13

Survival from Onset of Disease

	Number	Average (Months)	Range (Months)
Living	31	41.5	5–157
Died or lost to follow-up	65	20.7	2–120

Ederer[11] was employed. For this analysis time was counted as beginning when remote metastases were demonstrated by pathologic examination of tissue or clinical observation during surgery and not necessarily, therefore, from the time of original diagnosis. The data were then compared with those cases of ovarian carcinoma with remote metastases taken from Connecticut statistics.[12] They are summarized in table 8.

TABLE 8

Ovarian Carcinoma: Per Cent Survival after Diagnosis of Remote Metastases

Source	3 Months	6 Months	1 Year	3 Years	5 Years
Bateman	94.8	85.4	83.0	31.5	31.0
Connecticut	64.6	35.9	19.1	6.5	3.5

There was marked evidence of improvement in survival time by 3 months, and at 1 year the ThioTEPA-treated patients had a 4-fold survival over the Connecticut state cases. This proportion increased as time went on.

The apparent causes of death are listed in table 9. Intestinal obstruction was the most common cause. This was always one of the causes in the patients who had received irradiation therapy to the abdomen. The adhesions in the irradiated group ranged from dense fibrous bands between bowel loops and between bowel and abdominal wall to a solidification of the entire abdominal contents through which the bowel threaded a tortuous path. Some of the patients who had not been irradiated also had obstructive adhesions secondary to tumor or surgery, but these were never so dense as those seen following X-ray therapy. Obstruction of ureters, usually in the region of the ureterovesical junction, resulted in fatal uremia in 9 cases. Obstructive uropathy was most commonly caused by a pelvic tumor, and for this reason the transvaginal route of therapy was originally instituted. Inanition is listed as the cause of death in 9 patients. Low-grade obstruction, exhaustion from extensive tumor, and depression of bone marrow from the neoplastic process and aggravated by therapy each probably played a role. Four patients died as the result of pulmonary embolism. Usually if this process developed it occurred early and before the moderate thrombopenia attendant on chronic chemotherapy became apparent. Liver failure caused demise in 1 patient 2 months following institution of chemotherapy. At surgery this patient's liver had been noted to be

TABLE 9

Apparent Cause of Death in 65 Cases of Ovarian Carcinoma

Intestinal obstruction (ileovaginal fistula 1)	30
Uremia	9
Inanition	9
Pulmonary embolism	4
Liver failure	1
Cerebrovascular episode	1
Unknown	11

practically replaced by tumor. One patient died of a cerebrovascular accident unrelated to cancer. In 11 cases (and these include those lost to follow-up) the cause of death was unknown.

The following 5 cases, very briefly summarized, indicate the gratifying control achieved in some instances:

F. D., aged 58. *Adenocarcinoma of ovary*

April to August 1957: Recurrent pleural effusion tapped.
August 1957: Exploratory laparotomy and biopsy (bilateral ovarian carcinoma, metastatic throughout abdomen and to liver; ascites).
August 28, 1957: 50 mg. ThioTEPA intrapleurally.
September 5, 1957: 35 mg. ThioTEPA intrapleurally.
September 1, 1957 to January 31, 1959: 681 mg. ThioTEPA transabdominally.
February 1959: No evidence of disease. Normal activity.

G. M., aged 49. *Adenocarcinoma of ovary*

September 28, 1957: Exploratory laparotomy and biopsy (bilateral ovarian carcinoma, metastases throughout abdomen including bowel and liver).
September 28, 1957 to January 31, 1959: 920 mg. ThioTEPA (at surgery, transabdominally and transvaginally).
February, 1959: No evidence of disease. Working full-time.

M. G., aged 44. *Undifferentiated carcinoma of ovary*

November, 1955: Drainage of ascites, repair of umbilical hernia (metastatic nodules in hernial sac).
December, 1955: Bilateral salpingo-oöphorectomy, total hysterectomy, block excision umbilical hernia, excision biopsy breast tumor (metastatic carcinoma).
January, 1956: Bilateral pleural effusion (carcinoma cells).
January 22, 1956 to January 28, 1959: 921 mg. ThioTEPA intrapleurally, transabdominally, transvaginally.
February, 1959: No evidence of disease. Keeping house.

P. C., aged 34. *Malignant dysgerminoma*

October, 1953: Left salpingo-oöphorectomy for carcinoma of ovary.
December, 1953: Hysterectomy and right salpingo-oöphorectomy.
August, 1954: Resection of small bowel for metastatic obstruction (metastases to omentum and mesentery, irresectable pelvic mass).
September 1, 1954 to January 5, 1959: 1,590 mg. ThioTEPA given by transvaginal route.
February, 1959: No evidence of carcinoma. Patient maintaining normal activity.

M. P., aged 69. *Papillary cystadenoma of ovary*

December, 1952: Episode of urinary retention. Pelvic mass discovered. Laparotomy for papillary cystadenoma of ovary (extent of disease or procedure not recorded).
May, 1953: Sudden onset of vaginal bleeding. Exploratory laparotomy, generalized seeding of pelvic peritoneum, infiltration of ureters and bladder base. Lysis adhesions and implantation of radon seeds. Biopsy of vagina and mesenteric node, metastatic adenocarcinoma.
December, 1953: Transverse colostomy for intestinal obstruction. Severe urinary frequency and urgency; palpable pelvic mass.
December 27, 1953 to February 11, 1954: ThioTEPA 60 mg. intravenously. Disappearance of urinary symptoms.
March 5 to April 30, 1954: 60 mg. ThioTEPA transvaginally. Pelvic mass regression.
May 12, 1954: Colostomy closed.
May 28, 1954 to January 16, 1959: Maintenance therapy with ThioTEPA (total dose 944 mg. ThioTEPA given by transvaginal route in divided doses at 2- to 6-week intervals). Patient living normal life.

The long duration of ovarian cancer seen in some cases is exemplified in the following summaries:

R. S., aged 42. *Papillary serous cystadenocarcinoma*

1945: Right oöphorectomy (no biopsy obtained but ovary described as being covered with nodules).
1947: Left oöphorectomy and hysterectomy for carcinoma.
1956: Resection of recurrence.
October, 1958: Exploratory laparotomy (abdominal carcinomatosis).
October 28, 1958 to January 23, 1959: 390 mg. ThioTEPA given at surgery, transvaginally and transabdominally.
February, 1959: Disease controlled. Patient very active.

J. C., aged 40. *Granulosa cell carcinoma*

December, 1945: Removal of bilateral ovarian cysts (carcinoma).
January–April, 1946: X-ray therapy.

April 1953: Right salpingo-oöphorectomy for recurrent carcinoma.
November 21, 1957 to January 29, 1959: 1,120 mg. ThioTEPA by transabdominal route.
February, 1959: Abdominal tumor present but stationary. Patient very active.

P. M., aged 70. *Pseudomucinous cystadenocarcinoma*

January, 1945: Bilateral salpingo-oöphorectomy for carcinoma of right ovary.
January, 1945: Supraclavicular node biopsy, carcinoma. X-ray therapy.
November, 1954: Pulmonary metastases; course of testosterone administered.
May to September, 1955: 385 mg. ThioTEPA injected into supraclavicular metastases.
Lost to follow-up. (Died December 20, 1955)

F. N., aged 55. *Papillary serous cystadenocarcinoma*

September, 1949: Carcinoma of left ovary discovered at time of hysterectomy.
March, 1954: Exploratory and biopsy. Abdominal carcinomatosis.
July, 1954 to January, 1955: 450 mg. ThioTEPA given by intravenous and transvaginal routes.
February, 1955: Died.

Discussion

Evaluation of therapy for ovarian carcinoma is difficult due to considerable variation in the natural history of the disease. In the papillary serous cystadenoma group reported by Munnell,[7] however, only 20 per cent of Grade III cases survived more than 24 months. In the series of cases reported by Randall[13] 69 per cent of the patients died within less than 1 year from the date that diagnosis was established, and among the few known to have survived more than 5 years 70 per cent are already dead of carcinomatosis. If the tumor is solid or presents outside the capsule or is associated with ascites, the prognosis is affected unfavorably. In the series of patients herein presented the majority had solid tumors; many were associated with ascites and all had extended outside the capsule.

The value of radiation for ovarian cancer is considered doubtful by Latour.[14] X-ray therapy is recommended by others.[6] Some relief of symptoms with an average duration of about 9 months was obtained in about two-thirds of the patients with advanced ovarian adenocarcinoma treated with supervoltage radiation.[15] The palliation achieved with chemotherapy compares favorably with these figures.

Intracavitary administration of colloidal radioactive gold (Au^{198}) was employed routinely in a total of 51 cases of ovarian carcinoma of all stages by Muller.[16] Although the results in Stages I and II were impressive, i.e., 100 and 70 per cent 5-year survivals respectively, those in Stage IV had no 5-year survivals, and 25 per cent of Stage III and IV patients apparently survived less than 6 months.

Weed and Barraza[17] treated 123 patients with ovarian carcinoma of all stages and types. In 32.5 per cent the primary tumor was inoperable or incompletely removed. None of this latter group survived more than 1 year regardless of the type of supplementary therapy, including intracavitary administration of radioactive gold. It well may be that the use of radioactive gold has a place as recommended by these authors in those who have ascites but no obvious metastases, or in those whose tumor shows evidence of breaking through the surface. In our experience ThioTEPA, which is much simpler to administer, is likewise effective in these situations.

Patients in our group who had received Au^{198} either before or subsequent to chemotherapy and who eventually came to postmortem were found to have confinement of the intestines in a restricted mass covered by a leathery, thickened and shrunken serosa.

Some decrease in a pelvic mass but no change in liver metastases in a patient with adenocarcinoma of the ovary treated with 300 mg. testosterone daily has been reported.[18] In our patients this dosage was never achieved because of the undesirable side-effects seen on a much smaller dose of testosterone.

No correlation between radiosensitivity and the histologic anatomy of malignant epithelial ovarian tumors could be observed by Kottmeier[19] and Sisson.[6] The data in our series suggest that patients with advanced papillary serous cystadenocarcinoma respond in greater number than do other ovarian carcinomas to chemotherapy.

To compound the difficulty in assessing ovarian tumors there is apparently no correlation between clinical and histological malignancy.[16] Certainly it is difficult to understand why some patients with the same histologic and clinical type of tumor can be controlled for long periods of time and others progress steadily to a fatal termination.

It is interesting that the greater survival time from onset of disease in our living group as compared to the deceased or lost patients could be explained only partially by prolongation of life with chemotherapy (table 7), impressive as the latter was in many cases. With comparable therapy of any type the first group had a tendency for longer survival, which might be explained on the basis of some immunologic process in the host or some variation in virulence of the etiologic agent, whatever that may be. However, the percentage of survival following demonstration of remote metastases and compared with the statistics from Connecticut are impressive in our chemotherapeutically treated patients.

Although chemotherapy for advanced ovarian carcinoma is palliative only, a carefully planned program of early treatment and maintenance therapy will enable many patients to live useful and active lives for a period of months to years.

SUMMARY

Ninety-six patients with advanced ovarian carcinoma were treated for periods of 1 to 61 months with N, N′, N″ triethylene thiophosphoramide (ThioTEPA). All patients with 1 exception could be classed as belonging to Group IV.

ThioTEPA was administered at the time of surgery in 16 patients. Chemotherapy was started postoperatively in 28 cases and instituted for progressive or recurrent neoplasm in 52 additional cases. Therapy was maintained at intervals of 1 to 6 weeks depending on the clinical response to the drug. Dosage was guided by pre-treatment blood counts.

Objective improvement included control of serous cavity effusion and regression of demonstrable tumor.

Survival time from the date of demonstrable remote metastases was 94.8 per cent at 3 months, 85.4 per cent at 6 months, 83.0 per cent at 1 year, 31.5 per cent at 3 years, and 31.0 per cent at 5 years. These figures represent an appreciable improvement in survival time over that achieved for comparable cases treated by conventional methods only.

BIBLIOGRAPHY

1. Sykes, M. P., Rundles, R. W., Pierce, V. K., and Karnofsky, D. A.: Surg. Gynec. & Obst., 1955, **101,** 133.
2. Rundles, R. W., and Barton, W. B.: Blood, 1952, **7,** 483.
3. Anderman, L. B., Johnson, W. M., and Hosmer, F.: Am. J. Obst. & Gynec., 1952, **63,** 464.
4. Bateman, J. C., and Winship, T.: Surg. Gynec. & Obst., 1956, **102,** 347.
5. Diddle, A. W.: Am. J. Obst. & Gynec., 1949, **58,** 790.
6. Sisson, M. A., and Garland, L. H.: Stanford M. Bull., 1957, **15,** 191.
7. Munnell, E. W., and Taylor, H. C., Jr.: Am. J. Obst. & Gynec., 1949, **58,** 943.
8. Henderson, D. N., and Bean, J. L.: Ibid., 1957, **73,** 661.
9. Bateman, J. C., Carlton, H. N., Calvert, R. C., and Lindenblad, G.: Investigation of distribution and excretion of C^{14}-tagged triethylene thiophosphoramide following injection by various routes, in press.
10. Bateman, J. C., Moulton, B., and Larsen, N. J.: A.M.A. Arch. Int. Med., 1955, **95,** 713.
11. Cutler, S. J., and Ederer, F.: J. Chron. Dis., 1958, **8,** 699.
12. Griswold, M. H., Wilder, C. S., Cutler, S. J., and Pollock, E. S.: Cancer in Connecticut 1935–1951. Hartford, Conn.: State Department of Health, 1955.
13. Randall, C. L., and Hall, D. W.: Am. J. Obst. & Gynec., 1952, **63,** 497.
14. Latour, J. P., and Davis, B. A.: Ibid., 1957, **74,** 968.
15. Chu, F. C.: Surg. Gynec. & Obst., 1957, **104,** 45.
16. Muller, J. H.: First 5-year results of routine intracavitary administration of colloidal radioactive gold (Au^{198}) for the treatment of ovarian cancer, presented before the Second United Nations International Conference on the Peaceful Uses of Atomic Energy (A/Conf. 5/P/234), June 5, 1958.
17. Weed, J. C., and Barraza, D. F.: South. M. J., 1959, **52,** 278.
18. Griboff, S. I.: A.M.A. Arch. Int. Med., 1952, **89,** 812.
19. Kottmeier, H. L.: Acta obst. et gynec. scandinav., 1949, **28,** 510.

SOME ASPECTS OF SURGERY ON INFANTS

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THERE ARE MANY differences between children and adults. This dissimilarity is most marked early in the growth and development of the former. Conversely, as maturity comes on, the physiologic and metabolic responses to disease and illness approach those of the adults. Infants and children are not miniature adults, and the physician who treats his young patients as such is courting disaster.

Anatomic findings in infants both in health and disease which differ from similar structures in adults are many and include such as the horizontal position of the heart and the large thymus gland. Physiologically an infant demands greater nutritional needs because of his growth requirements. Thus, an infant who is ill, because of his higher metabolic rate, will develop disturbed physiologic states more rapidly than an older child or adult. The rapid onset of these disturbances is the effect of injurious agents on developing tissue rather than on mature tissue.

Infants do not possess the stamina and physical strength to survive prolonged and strenuous procedures. They become exhausted quickly. Despite this deficit, however, they recover rapidly from procedures which leave adults invalids for weeks, but this rapid recuperative power is lost if the infants' needs are not met. As an example, up to the age of 4 months an infant should sleep approximately 20 hours per day in regular intervals. Without this rest they easily become exhausted. Yet it is not unusual to find the hospitalized infant constantly harassed; first, the nurse takes the temperature, then the intern checks the infant and may draw blood. The resident next sees the patient; then comes feeding time; next in line may be the pediatrician; and then the parents demand to see their namesake. Perhaps a scheduled X-ray procedure is next. Interjected among these disturbances are dressing changes, bed changes, hypodermic injections of drugs, or other treatments. Before long, it is temperature time again, then feeding time again, or medicine time, and the round of disturbances starts all over again. This harassment could be avoided by grouping several procedures within one time interval to result in less periods of disturbances with more rest for the patient.

There are a few natural differences in the function of certain of the infant's body systems.

Compared with adults, infants have a relative respiratory insufficiency (table 1). An infant must move approximately twice the volume of air per kilogram of body weight per minute than

TABLE 1*

Respiratory Data on Infants and Adults

	Newborn	Adult
Rate	37	18
Tidal air	19.0 c.c.	450.0 c.c.
Minute volume	700.0 c.c.	7,100.0 c.c.
Vital capacity	170.0 c.c.	3,500.0 c.c.
Tidal air/Kg. of body wt.	5.5 c.c.	6.5 c.c.
Minute volume/Kg. of body wt.	200.0 c.c.	100.0 c.c.
Vital capacity/Kg. of body wt.	48.5 c.c.	50.0 c.c.

* From Smith in Nelson, W.E.: Textbook of Pediatrics, 6th ed. Philadelphia: Saunders, 1954.

adults, with a tidal air exchange of approximately 1/20 of that of an adult. This is accomplished by a rapid rate. Respiratory stress is met with an increased rate rather than an increase in depth, which is the adult response. Respiration in the infant is accomplished by diaphragmatic and abdominal musculature, with little or no thoracic movement. Thus, if there is abdominal distention, airway obstruction or pneumonia, there is little or no respiratory reserve. Prophylactic support, such as high oxygen concentration and humidity, airway clearing and aspiration, and relief of abdominal distention will prevent early exhaustion from respiratory distress.

Renal function of the neonate is below normal adult standards. During the first week of life albuminuria is often encountered. Urine concentration is limited. There is lowered urea, diodrast and creatinine clearance. When administering parenteral fluids to newborns, caution should be observed. Their kidneys may be immature and unable to secrete excessive amounts of electrolytes and water.

In further considering parenteral fluid therapy, infants have more water in comparison to body weight than adults. Newborn infant water comprises 70 to 83 per cent of the total weight. The basic difference lies in the greater amount of water contained in the extracellular compartment in infants. Furthermore, the daily intake of water in infants when expressed in terms of body weight is greater than adult water intake. This intake is required because of the greater metabolic rate and basal heat production of infants. In comparison, an infant exchanges or replaces 1/2 of his extracellular fluid volume every 24 hours, whereas an adult exchanges 1/7. The minimal daily requirements of salt and water are as follows (table 2).

Some authors use as a working rule a maximum of 30 c.c. of fluid per pound of body weight per 24 hours. This is less than the minimal daily requirements as stated above; however, it is better to undertreat than to administer excess fluids which may become troublesome. In severe dehydration, up to 100 c.c. per pound per day may be required.

TABLE 2

Minimal Daily Requirements of Water and Salt in Infancy

Weight (lbs.)	Water	Age (mo.)	Salt
5	60 c.c./lb.	1	0.25–0.5 Gm.
10	50 c.c./lb.	1–6	1.0 Gm.
20	40 c.c./lb.	6–24	1.5–2.0 Gm.

Surgical patients usually require the maintenance of normal daily needs and replacement of any losses, but severe dehydration and electrolyte imbalance may have to be treated preoperatively. Prolonged gastric suction or vomiting loss may be replaced with isotonic saline in quantities equal to the amount lost. Ringer's solution is excellent for fluid replacement, but one must be certain of adequate renal function prior to its administration. It is therefore not recommended in the neonatal period. Diarrheal losses consist mainly of sodium and bicarbonate and should be replaced with sodium lactate. With fever, insensible water loss is increased, first, because of the higher metabolic rate, and second, because of poor urine concentrating power. Five per cent glucose in saline is adequate replacement.

Oral intake of fluid is, of course, the best method for correcting fluid imbalance. If this is not feasible, however, hypodermoclysis can be used if small amounts are to be administered for a short period of time. Physiologic saline or equal parts of physiologic saline and 5 per cent glucose in water may be given subcutaneously. Hyaluronidase may be added to speed the rate of uptake. In using subcutaneous clysis, 10 to 15 c.c. of fluid per pound of body weight at any one time should not be exceeded.

Intravenous feeding is the more preferred method. Veins in the antecubital fossa or on the back of the hand can be used, but in wriggling infants the introduction of the needle requires great skill. Scalp veins are used more frequently for single infusions. The amount should not exceed 10 c.c. per pound of body weight and should be given over at least a 20- to 30-minute period.

For continuous intravenous infusion, an ankle vein cut-down is recommended. A well-padded and weighted cut-down board to which the leg is strapped is the method most often used. Wrapping with an elastic bandage is also employed occasionally. Such a setup may be maintained up to 48 to 72 hours with frequent evaluations for the prevention of phlebitis.

A second caution to be closely observed in venous infusions is overhydration. Too often, fluids are calculated for a 24-hour period, and the total amount started in 1 bottle, with appropriate markers where the level should be at periodic intervals. Also, the usual order written is, "Keep cut-down open with 5 per cent dextrose in water running slowly." To prevent overhydration, the fluid requirements for 24 hours can be calculated and then divided into 8-hour intervals and the fluids for each period administered separately. Another distinct advantage is that reëvaluation of the fluid therapy can be made at the end of each 8-hour interval and any adjustments easily made. Eight drops per minute, that is, approximately 0.5 c.c., is the slowest practical rate at which fluid can be administered. The nursing staff should not be expected to assume total responsibility for the amount and rate of fluid administration.

It must be kept in mind that many surgical procedures do not interfere with digestive functions. A slight temporary water deficit will be quickly made up as soon as the infant begins oral intake after the nausea of anesthesia has passed. Thus, many infants may undergo operations and do perfectly well without extraoral fluid administration.

Early in life the infant has a macrocytic polycythemia. The number of erythrocytes increases slightly the first 2 days of life, then there is a rapid, followed by a slower, fall in number to the age of 3 months, at which time a gradual rise begins until the adult levels are reached. The hemoglobin parallels the course of the red blood cells but has a greater drop. It also lags behind the increase in red blood cells. This mild anemia is often termed "the physiologic anemia of the newborn." Normally it produces no symptoms and usually demands no treatment. However, with blood loss, diet deficiencies or disease, it may become pathologic and require replacement, diet adjustments or hematinics.

A disease early in life, melena neonatorum or hemorrhagic disease of the newborn, occurs mostly in infants that are usually full-term and well-developed. The bleeding appears most commonly from the gastrointestinal tract as melena or hematemesis and occurs on the first to fifth days of life. At this time plasma prothrombin content is usually low, and this deficiency has been accepted as the cause of the disease. Plasma prothrombin deficiency, however, may not be the complete explanation. Some investigators claim that melena neonatorum can occur at almost normal plasma prothrombin levels. Infants requiring operations during this period of low prothrombin should be given intramuscular or intravenous vitamin K prophylactically to increase a possible low plasma prothrombin content.

When one is dealing with infants, parents often act as a go-between. For them to fulfill this role their anxiety must be allayed by simple, frank explanations. Babies are easily frightened by loud noises, pain or separation from their parents. Clear-cut, simple language with a gentle approach with the parents nearby and perhaps assisting will often win the confidence of an otherwise fearful patient. A scowling, struggling, tear-soaked infant should not be dragged away from its mother. Such histrionics can be avoided by having the mother take the infant to its bed or room and stay awhile, until both get settled and acquainted with their surroundings. Furthermore, the mother may stay with the infant. If this is not possible, the visiting hours should be extremely liberal so as to permit the parents to be with the infant from waking to sleep. For the very small infants, this parental companionship is not necessary. Once the infant is reasonably settled, preoperative preparations can get under way.

Many infants undergoing elective operations are basically healthy and require no preoperative preparation. Even in emergency situations, as in tracheo-esophageal fistula or pyloric obstruction, sufficient time is available to prepare adequately the patient for surgery. A short delay to build up the infant's reserve to withstand a surgical procedure may be the deciding factor for a successful outcome.

Dehydration should be relieved and electrolytes restored, at least partially, prior to anesthesia. A serious electrolyte or water deficiency in an ill patient demands that prompt treatment be well under way before surgical intervention.

Anemia should be corrected. A hemoglobin of less than 10 to 12 grams requires either whole blood or packed cells transfusion for emergency operations. If there has been any blood loss prior to operation, adequate replacement must be made.

Approximately 300 c.c. is the total blood volume of a 6½- or 7-pound infant. A loss of 30 c.c., that is, 10 per cent of the total volume, is comparable to a 600 c.c. hemorrhage in an adult. Blood loss must be appreciated as a fraction of the total volume rather than as an absolute amount. Replacement of the amount of blood lost plus 5 c.c. per pound of body weight is usually considered adequate.

Since the infant's metabolism is so rapid, feedings should not be withheld any longer than necessary. An infant's stomach is empty 2 hours following feeding, and therefore it is perfectly feasible to permit feedings up to 4 to 6 hours prior to the time of operation. The last bottle, however, should consist of sweetened water, in order to preserve glycogen stores. Older infants customarily doing without food all night may be permitted to drink clear fluids up to 2:00 a.m.

As mentioned previously, newborns should be given vitamin K preoperatively because of possible hypoprothrombinemia. Vitamin C should be given to all infants daily both pre- and postoperatively.

Prophylactic antibiotic therapy in a healthy infant is not recommended. However, any infection present must be treated. Bacterial culture and sensitivities must be obtained and the effective specific antibiotics used in sufficient dosage and length of time necessary to control the infection.

Elective surgery of the colon, such as megacolon or colostomy closure, requires special consideration. The bowel should be cleansed with mild flushing enemas and mild laxatives. Sterilization of the bacterial flora can be accomplished in 3 days with the use of Sulfasuxidine orally in doses of 100 mg. per pound per 24 hours. Some authors suggest 1 Gm. of neomycin every 6 hours for 6 doses. Enemas of 1 per cent neomycin solution have also been used with good effect, especially in colostomies. Vitamin K must be given simultaneously in all bowel sterilization. Newborns have a sterile bowel for approximately the first 48 hours of life, and colon surgery needs no bowel sterilization. Routine preoperative enemas the evening prior to surgery are not essential. It is desirable to remove fecal masses, but enemas are usually not necessary in most cases and only serve to upset the patient.

The administration of a general anesthetic for infants requires a high oxygen content in the inhalation mixture to avoid anoxia. Ether is the most reliable and widely used anesthetic agent for infants. Induction with Vinethene is rapid in action, and its odor is better tolerated by children. It should be limited to short procedures of less than 10 minutes if used alone, since it is toxic for longer periods. Once induction has been accomplished, ether can be employed. Rectal Pentothal for induction is very successful in recommended doses of 100 mg. per 5 pounds of body weight.

Open-drop administration of ether is still satisfactory for many procedures in general surgery. If endotracheal anesthesia is used, an anesthetic tube without an inflatable cuff is preferred.

During the operation it is best to tape the stethoscope to the left chest and auscultate the cardiac rate, since peripheral rates in infants are difficult to detect and even more difficult to count because of the rapid rate. A properly applied small pediatric cuff is a necessary requirement to obtain accurate blood pressure. Hypotension in an infant is ascertained by a sudden drop in blood pressure rather than a slow change in circulatory signs.

Gentle handling of tissues with sharp dissection, carefully placed sutures, and preservation of as much blood supply as possible are necessary in infant surgery. In addition to an understanding of normal anatomy, the surgeon must have a basic knowledge of embryology.

The application of dressings must be secure or they will soon be removed by the patient. Dressings secured with collodion are excellent in uncontaminated surgical wounds. Subcuticular sutures of wire are nonirritating and easy to remove. If the wound is in the groin or perineum and apt to be soiled with excreta, the infant should not have diapers applied for several days postoperatively.

Many authors recommend that the infant be transported in his own bed following operation. This eliminates unnecessary handling of the seriously ill. Placing the infant in a lateral or prone position without a pillow helps to prevent aspiration of oral secretions. Frequent suctioning is often needed to keep the airway clear.

Prophylactic oxygen administration is of real value; it eases respiration and prevents early exhaustion. A nasal catheter is not recommended, since it is too drying and irritating to the infant's tender mucosa. An oxygen tent or a croupette with humidity is best, because all examinations and treatments can be carried on without disturbing the high-oxygen atmosphere.

Nausea and vomiting postoperatively are generally due to the anesthetic and usually disappear within 24 hours. Often if the gastrointestinal tract has not been disturbed, the infant will be able to take clear fluids and retain them within 8 to 10 hours postoperatively. In abdominal operations a temporary paralytic ileus occurs and oral fluids should be withheld until peristalsis returns, which it usually does within 20 to 24 hours. If gastrointestinal surgery has been performed, a nasogastric tube with suction should be used to prevent abdominal distention. A number 8 or 10 French catheter with 2 or 3 holes cut at 1 cm. intervals is an excellent tube. The usual gastric tubes have the holes too far apart for an infant's small stomach. The first feeding postoperatively consists of water, and if this is tolerated, smaller infants may then be placed on their formula and usual feeding schedule. Older infants may be given broth. Except in major abdominal or alimentary tract surgery, full nourishment is taken by the following day.

The best method of obtaining fluid balance is by the oral route. In a simple procedure which may bring about a temporarily disturbed alimentary tract, normal healthy infants can successfully withstand starvation up to 24 hours, drawing on body fluids. Any imbalance will be quickly corrected as soon as oral feeding is begun. If parenteral fluid therapy is necessary, the few simple principles previously outlined should be followed.

Unless there is some contraindication, infants should be permitted to move about at will and even stand if they so desire. Restraints do not facilitate healing or speed recovery except when weight-bearing on an extremity is not desired. The instincts of the infant will dictate the time of ambulation.

Finally, the complete care of an infant undergoing surgery should be the sole responsibility of 1 person and 1 person only, the surgeon. Too often there are conflicting and contradicting orders or treatments. The surgeon should consult

(*Continued on page 608*)

COMPARATIVE EFFICACY OF PENICILLINS G AND V IN THE TREATMENT OF UPPER RESPIRATORY INFECTIONS

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FOR MANY YEARS penicillin G has been successfully employed for the oral treatment of a wide variety of infections.[1-6] In the last several years penicillin V has had widespread clinical trial for the oral treatment of penicillin-susceptible infections. Interest in this newer form of penicillin has followed reports that (a) higher blood levels of penicillin are obtained with penicillin V than with penicillin G,[7-10] and (b) penicillin V is resistant to gastric acid and can, therefore, be administered without regard to meals.[11, 12]

Although many investigators have found penicillin V to be effective for the treatment of infections caused by organisms usually considered penicillin-susceptible,[11, 13-15] it is becoming evident from recent reports that no clinical superiority of penicillin V over penicillin G can be demonstrated.[16, 17] Apparently an adequate blood level for effective treatment is attained by the dosages of penicillin G usually recommended, and no clinical advantage is associated with the higher blood level claimed for penicillin V.[17] It seems possible that penicillin V is more highly bound by human plasma than is penicillin G and is, therefore, less able than penicillin G to diffuse into tissues and affect any bacteria present in the tissues.[18]

The present investigation was undertaken to evaluate the relative clinical usefulness of penicillins G and V in the treatment of upper respiratory infections.

MATERIALS AND METHODS

In the present study 60 patients with acute tonsillitis and pharyngitis were treated for 6 days with oral penicillin in the Ear, Nose, and Throat Clinic of Episcopal Hospital. Of the total number, 30 patients were given penicillin G in doses of 400,000 units 3 times daily, and 30 were treated with penicillin V with the same dosage. No other medication was given. The stages of the infection varied in both groups from the complaint of only a mild sore throat to severe sore throat with difficulty in swallowing, acutely inflamed tonsils, and general malaise. A white blood cell count was done on all patients, and the predominant organism was identified in cultures of throat swabs. Clinical observations were recorded on the third and on the sixth day after treatment began (see table 1). Temperatures were considered elevated when above 99°F.

RESULTS

All 60 patients showed clinical improvement following treatment, no difference being evident between the results obtained with the 2 forms of penicillin in respect to remission of fever, relief of pain and soreness, or the appearance of the throat and tonsils. On the third day 5 of those patients treated with penicillin G and 6 of those treated with penicillin V had temperatures between 99° and 101°F. Elevated temperatures were seen in no patient on the sixth day. The white blood cell count was elevated initially in all patients, with a shift to the left.

Changes in temperature and other clinical signs are tabulated in table 2.

TABLE 1

Observations on 60 Patients Treated Orally with Penicillins G and V

Drug Given	No. of Patients (Sex)	Age Range (Years)	Temperature Range	Stage of Disease	White Blood Cell Count	Predominant Organisms Cultured
Penicillin G	30 {18 F 12 M	4 to 51	99° to 104°F	1st to 7th day	5,700 to 25,500	Streptococcus viridans, 22 Streptococcus hemolyticus, 4 Diplococcus pneumoniae, 1 Diphtheroid, 1
Penicillin V	30 {21 F 9 M	7 to 43	98° to 103°F	1st to 8th day	5,550 to 16,000	Streptococcus viridans, 20 Streptococcus hemolyticus, 6 Streptococcus (nonhemolytic), 2 Vincent's organism, 1 Coccus, unidentified, 1

TABLE 2

Changes in Temperature and Other Clinical Signs after Treatment with Penicillin

Form of Penicillin Given	No. of Patients	At Start		After 3 Days		After 6 Days	
		Elevated Temperature*	Sore Throat	Elevated Temperature*	Sore Throat	Elevated Temperature*	Sore Throat
Penicillin G.....	30	30	30	5	3	0	0
Penicillin V.....	30	30	30	6	3	0	0
Totals....	60	60	60	11	6	0	0

* Temperatures were considered elevated when above 99°F.

DISCUSSION

No support is provided by the present study for the view that penicillin V is in any respect superior in its clinical efficacy to penicillin G after oral administration to patients with tonsillitis or other evidence of upper respiratory infection. This clinical impression, derived from a study of 60 patients, suggests that no material advantage results from the higher blood levels which are reported with penicillin V, possibly because of the greater binding of penicillin V, than of penicillin G by human plasma.

SUMMARY

Penicillin G and penicillin V are of equal clinical efficacy in treating upper respiratory infections caused by penicillin-susceptible organisms.

BIBLIOGRAPHY

1. Weinstein, L., and Perrin, T. S.: J. Pediat., 1950, **37,** 844.
2. Jacoby, A., and Ollswang, A. H.: Am. J. Syph., 1950, **34,** 60.
3. Keefer, C. S.: Am. J. Med., 1949, **7,** 21.
4. Kohn, K. H., Milzer, A., and MacLean, H.: J.A.M.A., 1950, **142,** 20.
5. Hofer, J. W.: J. Pediat., 1949, **35,** 135.
6. Hewitt, W. L.: M. Clin. North America, 1948, **32,** 1207.
7. Welch, H.: Antibiotic Med., 1956, **2,** 11.
8. Putnam, L. E., Wright, W. W., DeNunzio, A., and Welch, H., in Antibiotics Annual 1955–1956. New York: M. Encycl., 1956.
9. Rinsler, M. G., and Cunliffe, A. C.: Lancet, 1956, **2,** 328.
10. Peck, F. B., Jr., and Griffith, R. S., in Antibiotics Annual 1955–1956: See ref. 8, p. 506.
11. Martin, W. J. (Rochester, Minn.), Nichols, D. R., and Heilman, F. R.: Proc. Staff Meet. Mayo Clin., 1955, **30,** 467.
12. Jones, W. F., Jr., and Finland, M.: New England J. Med., 1955, **253,** 754; correction, 1955, **253,** 1160.
13. Cronk, G. A., and Naumann, D. E.: New York J. Med., 1957, **57,** 2387.
14. Wehrle, P. F., Feldman, H. A., and Kuroda, K.: Pediatrics, 1957, **19,** 208.
15. Breese, B. B., and Disney, F. A.: A.M.A. J. Dis. Child., 1956, **92,** 20.
16. Schalet, N., Reen, B. M., and Houser, H. B.: Am. J. M. Sc., 1958, **235,** 183.
17. Lombardi, A. A., Boyd, L. J., and Nightingale, E. J.: Antibiotic Med., 1958, **5,** 466.
18. Smith, C. I., Levine, J. D., and Embody, D. R., in Antibiotics Annual 1956–1957. New York: M. Encycl., 1957, p. 306.

THE PLACE OF PERPHENAZINE (TRILAFON*) IN ANESTHESIA

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ATARACTIC DRUGS, known as tranquilizers, are used in diverse clinical conditions and in anesthesia. Some of these drugs, derived from phenothiazine, are used before anesthesia to reduce apprehension and induce a state of quiescence in the patient, during anesthesia to supplement and potentiate the action of hypnotic and anesthetic agents, and after anesthesia for the control of vomiting, restlessness and pain.

A multitude of qualities, such as neurovegetative protection, antifibrillatory action, and an antishock effect, are attributed to ataractic drugs. Perphenazine derivatives affect the autonomic nervous system to varying degrees and at times produce an unpredictable sympatholytic response attributed to the structure of the side chain of the compound and to the halogen attached to the phenothiazine radical.

Perphenazine (Trilafon), a phenothiazine derivative, acts as a tranquilizer and antiemetic. Numerous reports on its clinical use have appeared in the literature.[1-4] Our initial experience with this compound was with its antiemetic effect on patients in labor.[5] No untoward reactions occurred when 5 mg. was administered intramuscularly. No potentiation of the effects of hypnotics and narcotics occurred when the drug was given in conjunction with these depressant drugs. The incidence of vomiting during labor was reduced when compared to results obtained in a control group of patients.

To further evaluate the use of perphenazine in anesthesia, 5 mg. doses were administered intravenously to several groups of patients classified as follows:

1. Conscious normal volunteer subjects	4
2. Preoperative patients	
a. Unpremedicated	12
b. Premedicated with morphine and scopolamine	12
3. Patients in immediate postoperative period	12

Procedure

Each patient served as his own control before and after the administration of perphenazine. The following observations were made:

1. Subjective symptoms
2. Cardiovascular system: blood pressure, pulse rate, continuous monitoring with the electrocardiograph
   Cardiac output: isotope technic using tagged cells and precordial counting. Analysis of dilution curve.
   Measurements of changes in intravascular space reflected in variations in central hematocrit.
   Measurement of blood volume with red blood cells tagged with chromium^{51}.
3. Ventilation, respiratory rate, minute volume, expiratory CO_2.
4. Central nervous system: monitoring with the electroencephalograph.

Results

Within 10 minutes after injection of 5 mg. of perphenazine given intravenously the 4 volunteer

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* Perphenazine was generously supplied by J. Black, M.D., of the Division of Clinical Research, Schering Corporation, Bloomfield, New Jersey.

TABLE 1

Incidence of Postoperative Vomiting among 300 Surgical Patients Receiving 5 mg. Perphenazine Intravenously

Type of Operation Performed	Anesthesia Used								Total
	Ether		Intravenous, Inhalation, and Ether		Intravenous, Inhalation, without Ether		Conduction		
	No. Patients	No. Vomiting	No. Patients	No. Vomiting	No. Patients	No. Vomiting	No. Patients	No. Vomiting	
Pediatric	1								
Soft tissue surgery			18		46	2	24		
Gynecologic—Lithotomy			15		16	1	4		
Supine			15		5				
Genitourinary			3	1	20		21	1	
Gastrointestinal			20	1	13	2	2		
Thoracic					3		1		
Ophthalmologic					5				
Neurologic					5				
Orthopedic			6		31	1	18	1	
Block							8		
Total patients	1		77		144		78		300
Total patients vomiting				2		6		2	10
Percentage of patients vomiting									3.3

subjects complained of oppression in the chest and became restless and irritable. They could not focus their vision and had a feeling of light-headedness. The following day 3 of them complained of muscular aches and pains and had stiffness of the neck. The volunteers related that under the influence of perphenazine each movement and action became a major effort and required mental concentration. When asked to answer questions they had to drive themselves to think clearly and talk.

In all 3 groups of patients observed no significant changes were noted in the cardiovascular system, ventilation, or the central nervous system reaction. No orthostatic hypotension occurred. A 5 mg. dose of perphenazine administered intravenously did not seem to potentiate the depressant effects of morphine and scopolamine administered subcutaneously in a 1:25 proportion for premedication in doses varying between 2.5 to 10 mg. of morphine. Perphenazine administered to patients immediately after surgery in the recovery room following general anesthesia with intravenous and inhalation anesthetic agents lasting a period of 15 minutes to 4 hours caused no changes in the cardiovascular, respiratory, or central nervous systems, and no effect on recovery time.

Perphenazine administered for premedication. Fifty unpremedicated patients received 5 mg. of perphenazine intravenously prior to induction of anesthesia. A control group of 50 patients received 1 ml. of normal saline. In the study group 26 patients showed signs of quiescence and drowsiness within 5 minutes; in the control group 11 patients felt relaxed and drowsy.

Perphenazine administration during anesthesia. When perphenazine in 5 mg. doses was administered intravenously to 30 patients under light general anesthesia, induction with sodium thiopental and nitrous oxide-oxygen gas mixture, 10 patients developed hyperactive laryngotracheal reflexes with cough and "bucking." Five patients had a fall in systolic blood pressure of 10 to 20 mm. Hg with slowing of the pulse which lasted for 5 to 10 minutes and gradually returned to normal levels. Clinically, no evidence of a potentiation effect could be detected on the action of intravenous barbiturates or inhalation agents.

TABLE 2

Incidence of Postoperative Vomiting among 300 Surgical Patients Receiving Placebo Intravenously

Type of Operation Performed	Anesthesia Used								
	Ether		Intravenous, Inhalation, and Ether		Intravenous, Inhalation, without Ether		Conduction		Total
	No. Patients	No. Vomiting	No. Patients	No. Vomiting	No. Patients	No. Vomiting	No. Patients	No. Vomiting	
Pediatric	3	3			3				
Soft tissue surgery			17	1	40	2	20		
Gynecologic—Lithotomy			16	4	20	4	2		
Supine			17	2	3				
Genitourinary			1		19		22	1	
Gastrointestinal			26	5	19	1	1		
Thoracic					6	1			
Ophthalmologic					5				
Neurologic					5				
Orthopedic			3		37		5		
Block							10		
Total patients	3		80		157		60		300
Total patients vomiting		3		12		8		1	24
Percentage of patients vomiting									8

Effect of perphenazine on vomiting. A double-blind study was conducted on 600 unselected surgical patients during the first 12 hours following surgery. Three hundred patients received 5 mg. of perphenazine intravenously (5 mg. in 1 ml. of water for injection) prior to induction of anesthesia. A control group of 300 patients received a placebo. In accordance with our general practice all patients under general anesthesia have their respiration assisted throughout the procedure. The results of this study are presented in tables 1 and 2. In the perphenazine group 10 patients vomited postoperatively. In the control group 24 patients vomited. There was a 59 per cent reduction in the incidence of vomiting in the group of patients treated with perphenazine.

Effect of perphenazine on the nauseated and vomiting patients. During an episode of nausea and vomiting 17 children in the age group of 5 to 12 years received 2 mg. of perphenazine intravenously and 22 adults 5 mg. by the same route. For comparison, 20 adult patients who were vomiting were given placebo medication. The results are presented in table 3. Vomiting ceased in 71 and 73 per cent, respectively, in the children and adults given the drug, and in 40 per cent in the control group.

TABLE 3

Effect of Perphenazine on the Vomiting Patient

	Dose (I.V.)	Total No. Patients	Stopped Vomiting	No Effect	Percentage Stopped Vomiting
Children aged 5–12 years	2 mg.	17	12	5	70.6
Adults	5 mg.	22	16	6	72.7
Adults	Placebo	20	8	12	40.0

DISCUSSION

Vomiting and regurgitation occurring during the induction of anesthesia are distressing. A large portion of pulmonary postoperative complications are frequently attributable to aspiration of vomitus and gastric contents during anesthesia. A drug capable of reducing the tendency to vomit but which does not interfere with the patient's general condition or with other medication that he has received, such as hypnotics and narcotics, would be a valuable addition to the armamentarium of anesthesiologists. Perphenazine in doses of 5 mg. intravenously seems to fulfill these requirements.

A patient under the influence of hypnotics and anesthetics is hypoventilated unless his respiration is assisted. Carbon dioxide accumulation is a contributing factor in post-anesthetic vomiting. In support of this concept, morphine sulfate was administered in fractionated doses to supplement general anesthesia without the use of antagonists, but with continuous hyperventilation throughout the procedure. Morphine sulfate is known to enhance the tendency to vomit, but in patients handled in this manner the incidence of nausea and vomiting following anesthesia was low (under 12 per cent).[6]

Conclusion

Perphenazine when administered intravenously in doses of 5 mg. seems to have no appreciable effect on the cardiovascular and respiratory systems. In this dosage the drug did not potentiate the action of intravenous barbiturates and inhalation agents. Perphenazine in 5 mg. doses given intravenously in this study acted as an antiemetic drug with a mild soporific effect without interfering appreciably with the action of narcotics and hypnotics.

BIBLIOGRAPHY

1. Ayd, F. L.: Treatment of ambulatory and hospitalized psychiatric patients with Trilafon. Dis. Nerv. System, 1957, **18**, 394.
2. Preisig, R., and Landman, M. E.: Use of perphenazine in anxiety states and hyperemesis; report of 135 cases. Am. Pract. & Digest. Treat., 1958, **9**, 740.
3. Harer, W. B.: Tranquilizers in obstetrics and gynecology; studies with Trilafon. Obst. & Gynec., 1958, **11**, 273.
4. Scurr, C. F., and Robbie, D. S.: Trials of perphenazine in the prevention of postoperative vomiting. Brit. M. J., 1958, **1**, 922.
5. Anderson, G., and others: Effect of Trilafon on nausea and vomiting during labor. Obst. & Gynec., in press.
6. Albert, S. N., and others: Report in preparation.

THE TREATMENT OF ACNE VULGARIS WITH A THYROID HORMONE SUBSTANCE—LIOTHYRONINE

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CHIEFLY because its etiologic factors are not yet known, acne vulgaris continues to be a difficult treatment problem. In our experience the majority of patients with acne vulgaris respond to conventional treatment with keratolytic agents, antibiotics, diet, ultraviolet light or X-rays, and personal hygiene. A fairly large number of patients, however, do not benefit from these simple regimens and, therefore, require specialized and more intensive therapy. Determining which of a number of possible therapies these patients should receive has been the subject of some controversy.

Since many investigators believe that endocrine disorders involving thyroid-lipoid disturbances and androgen-estrogen imbalance are contributory factors in acne, we have, from time to time, used thyroid hormone therapy in several small series of resistant cases. Because our experience with therapy of this type proved encouraging, we decided to test a new synthetic thyroid hormone, liothyronine, in a larger group of patients, most of whom had not responded to the usual therapies. We selected this preparation because of published reports[1-6] indicating that it (1) is more potent than thyroid extracts, (2) has a more rapid onset and termination of action, and (3) has been found effective in various diseases when other thyroid preparations had failed to produce the desired response. We were also influenced in our selection of liothyronine for this study by the fact that we could find no mention in the literature of the use of liothyronine in the treatment of patients with acne vulgaris.

MATERIAL AND METHOD

During a 2-year period we administered liothyronine to 21 female and 10 male patients who had acne vulgaris. The patients ranged in age from 13 to 39 years (average 20 years) and had been troubled by acne for from ½ to 15 years (average 4 years). Most of the female patients experienced severe exacerbations of acne during menstruation. During the year preceding therapy with liothyronine 25 patients had failed to respond to 1 or more therapies, including diet, estrogens, X-rays, ultraviolet light, antibiotics, topically applied astringents and exfoliating agents, and vitamins. None of the patients had received thyroid hormones. Six of them also had dysmenorrhea, and, when it became obvious that liothyronine had a favorable effect on the dysmenorrhea, 5 additional patients with dysmenorrhea only were added to the study. All patients appeared to be euthyroid.

The patients being treated for acne vulgaris received liothyronine for from 1 to 24 months (average 7 months). Twenty-eight patients received 15 mcg. daily, 2 received 25 mcg., and 1 received 50 mcg. One or more appropriate concomitant therapies were continued in 18 patients: local therapy (topical ointments or lotions), 11 patients; antibiotics, 10 patients; comedone removal, 3 patients; and vitamin A, 1 patient. Two patients being treated for dysmenorrhea only received 12.5 mcg. daily, 2 received 25 mcg. daily, and 1 received 75 mcg. daily.

Since hypothyroidism and disturbed androgen-estrogen balance may be implicated in the etiology of acne vulgaris and/or dysmenorrhea, pre-treatment laboratory tests were run on 19 patients to determine whether there was any correlation between these causative factors and the serum precipitable iodine (SPI), serum cholesterol, and 17-ketosteroid levels (table 1). In addition, post-treatment laboratory tests were run on a small number of patients in whom 1 or more of the pre-treatment values were abnormal (table 2).

TABLE 1

Laboratory Tests in Patients with Acne Vulgaris and/or Dysmenorrhea

Pre-treatment Values

Patient	Sex	Diagnosis	Cholesterol (Normal male, 150–240 mg.%; female, 180–260 mg.%)	SPI (Normal, 4–8 mcg.%)	17-ketosteroids (Normal male, 10–22 mg./24 hrs.; female, 6–18 mg./24 hrs.)
1	F	Acne	High	Normal	Low
2	F	Acne	Normal	Normal	Normal
3	F	Acne	Low	Normal	Normal
4	F	Acne	High	Low	High
5	F	Acne	Low	Normal	High
6	F	Acne	Normal	High	Low
7	F	Acne	High	Normal	Normal
8	F	Acne	Normal	High	High
9	F	Acne	Normal	Normal	Low
10	F	Acne	Normal	Normal	Normal
11	F	Acne	Normal	Normal	Normal
12	M	Acne	Normal	Normal	Normal
13	F	Acne	Normal	Low	Normal
14	F	Acne	Normal	Low	Low
15	F	Acne	Low	Normal	High
16	F	Acne	Normal	—	Normal
17	F	Dysmenorrhea	High	Normal	Normal
18	F	Dysmenorrhea	High	Normal	High
19	F	Dysmenorrhea	High	Normal	Low

RESULTS

Improvement was evaluated by the reduction in the number of pustules, comedones, inflammatory plaques and nodules, and by the degree of scarring that occurred. Twenty-four of the 31 patients with acne improved when treated with liothyronine. In 21 the skin cleared completely or had only minor eruptions; comedones, pustules, and inflammatory plaques and nodules disappeared, and scarring was minimal. We were particularly impressed with the effect liothyronine had in preventing exacerbations of acne that had usually occurred during menstruation in most of the women. In 3 patients overall improvement was less marked or there was some exacerbation of acne during menstrual periods. Five patients showed little or no improvement, and 2 became worse. Improvement was noticeable in some patients within 1 month of treatment. For the majority, however, 2 or 3 months of treatment was required before appreciable results were evident. There seemed to be no correlation between extent of improvement and age of the patient or number or types of concurrent therapy, although the treatment did seem to be more effective in women than in men.

TABLE 2

Comparison of Pre- and Post-treatment Laboratory Values in Patients with Acne Vulgaris or Dysmenorrhea

Patient	Sex	Diagnosis	Cholesterol mg.% Pre	Cholesterol mg.% Post	SPI mcg.% Pre	SPI mcg.% Post	17-ketosteroids mg./24 hrs. Pre	17-ketosteroids mg./24 hrs. Post
1	F	Acne	283	246	4.8	4.1	3.47	4.5
2	F	Acne	312	203	1.6	7.1	18.33	6.0
3	F	Acne	142.2	95.7	4.6	2.0	40.6	11.25
4	F	Dysmenorrhea	359	238	6.3	2.7	12.51	8.6

We obtained excellent results within 1 menstrual period after treatment was initiated in all but 1 patient who received treatment for dysmenorrhea. Painful menstrual flow, irregular flow, clotting, and amenorrhea disappeared. There seemed to be some correlation between the results of treatment for dysmenorrhea and the results of treatment for acne. In those patients who were treated for both disorders, either both acne and dysmenorrhea responded to treatment, or neither disorder responded to treatment.

No definite conclusions could be drawn from the results of the laboratory tests. There seemed to be no correlation between abnormal pretreatment laboratory values and the presence of acne or dysmenorrhea. There was also no apparent correlation between post-treatment values and the results of treatment.

The post-treatment laboratory results indicate that serum cholesterol levels are lowered by liothyronine therapy, that 17-ketosteroid levels tend to be normalized, and that SPI levels are not uniformly affected. Although this series is too small for any absolute conclusions, these results agree with the results obtained by other investigators.

COMMENTS

A favorable response in over 80 per cent of the patients in this series treated for acne vulgaris or dysmenorrhea is remarkably high, particularly since other therapies had failed to produce satisfactory results in the majority. Since some investigators believe that thyroid therapy is particularly useful in the treatment of acne vulgaris when hypothyroidism is also present,[7] it seems possible that some of these patients might have been suffering from borderline hypothyroidism or hypometabolism that the presently available methods used to determine thyroid or metabolic functioning failed to identify.[8] It also seems obvious that further study into the incidence and detection of hypometabolic states and their relationship to acne or dysmenorrhea would be of value.

In any case, liothyronine seems to be an unusally effective drug, warranting further study in dermatology. It is somewhat easier to use than desiccated thyroid. Its effect is more rapid, which permits prompt dosage adjustment, and there seems to be no cumulative effect; once the optimum dosage was established, it could be maintained without further adjustment. For these reasons, liothyronine lends itself more readily to empiric use, as in the treatment of acne vulgaris, than does desiccated thyroid.

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BIBLIOGRAPHY

1. Gross, J., and Pitt-Rivers, R.: Physiological activity of 3:5:3′ L-triiodothyronine. Lancet, 1952, **1**, 593.
2. Newman, S., and Escamilla, R. F.: Triiodothyronine; clinical effects in patients with suboptimal response to other thyroid preparations. California Med., 1958, **88**, 206.
3. Zondek, H., Zondek, G. W., and Leszynsky, H. E.: Refractoriness to thyroid hormone in hypothyroid patients. Acta endocrinol., 1956, **23**, 145.
4. Tittle, C. R.: Effects of 3,5,3′ L-triiodothyronine in patients with metabolic insufficiency; preliminary report. J.A.M.A., 1956, **162**, 271.
5. Frawley, T. F., McClintock, J. C., Beebe, R. T., and Marthy, G. L.: Metabolic and therapeutic effects of triiodothyronine. Ibid., 1956, **160**, 646.
6. Gold, A.: Myxedema-resistant to thyroid extract; response to triiodothyronine. Canad. Serv. M. J., 1956 (July–Aug.), p. 619.
7. James, K. W., and Tisserand, J. B., Jr.: Treatment of acne vulgaris. GP, 1958, **18**, 130.
8. Billow, B. W.: Problems facing the general practitioner in thyroid disease. New York J. Med., 1957, **57**, 3125.

ABNORMAL SEX DEVELOPMENT

Report of a Unique Case of True Ambisexuality*

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THIS REPORT is a correlation of recent articles published on ambisexuality. Interest in this subject continues unabated, as the increasing number of papers on this condition indicates.

A recent symposium was held in England on Nuclear Sex, at which 75 clinicians, pathologists, endocrinologists and others were present. Several new approaches to this subject were discussed. Danon and Sachs[1] indicated that the primary role of the sex chromosomes is to direct normal gonadal differentiation. They mention the genetic origin of sexual anomalies in general, and state that genetic factors operate at the following levels: (1) the development of gonads (agenesia in Turner's syndrome and extreme dysgenesis in Klinefelter's syndrome), (2) the synthesis of steroid hormones (adreno-genital syndrome), and (3) the tissue response to hormone syndrome of testicular feminization.

Ashley[2] reported a case in which a person with ovarian tissue had a male type of nucleus in cells taken from the skin.

Barr[3] and his co-workers showed that it is possible to determine the genetic sex by examining the somatic-cell nuclei.

The clinical application of this finding has been in sex identification of pseudohermaphrodites, the study of postmortem tissue for sex determination for medicolegal purposes, and the study of the genetic sex of some patients with Turner's and Klinefelter's syndrome (Lehman et al[4]).

Rathbun et al[5] state that "tests of chromosomal sex are especially helpful in diagnosing suspected adrenocortical hyperplasia in female infants, gonadal dysgenesis in childhood, the testicular feminization syndrome during and after adolescence, and seminiferous tubule dysgenesis."

Davidson and Smith[6] also report the appearance of a nuclear mass from neutrophiles from females which they believe to be sex chromatin, and they found it possible to detect chromosomal sex from a blood smear. Ashley and Jones[2] point out the discrepancies in the diagnosis of genetic sex by leukocyte count, and they state that the biopsy is more accurate than the blood smear.

Barr[7] states that some true hermaphrodites have male and others female type nuclei, although it appears that the female type nucleus is more common. When there is an ovotestis on one side and a testis on the other the nuclei usually have a male pattern. On the other hand, when there is an ovotestis on one side and an ovary on the other the nuclear pattern is usually female. There is, however, some doubt whether the drumstick seen in the leukocyte is the same structure as that seen in the somatic-cell nuclei.

Grumbach and associates[8] state the controversy, and debate is focused principally on the relative role of genetic influences on embryologic gonads in the differentiation of genital ducts and external genitalia. Experiments by Jost[9] on rabbits and those of Raynaud and Frilley[10] on mice show that early destruction or removal of embryonic gonads lead invariably to female development of ducts and genitalia, and they emphasize the importance of embryonic testes in counteracting an inherent tendency of a fetus to feminize. They suggest that gonadal dysgenesis is due to deleterious agents affecting the embryo before the eighth or ninth week of gestation.

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* Read at the Annual Meeting of the Uro-Surgical Society at East Hampton, Long Island, N. Y., October 14, 1958.

Hampson[11] states that chromosomal, gonadal, or hormonal determination of psychosexual orientation has, since the advent of modern technic in chemistry, microscopy and other clinical sciences, been the viewpoint favored by prevailing climate of medical opinion. This viewpoint was examined by Money,[12, 13] and the clinical evidence failed to support the assumption that gender role is automatically determined by gonads, chromosomes or hormones. In brief, it is possible for a hermaphroditic child to grow into a gender role contradictory to his chromosomes, gonads or hormones.

Gross and Meeker[14] classify sex abnormalities into 2 main groups, one being that in which sexual abnormalities are due to abnormal hormone influences (the adreno-genital syndrome), the other being the sexual abnormalities without obvious hormone disturbance, which include the true as well as the pseudohermaphroditic group.

In true hermaphroditism both ovarian and testicular substance are present, either as an ovotestis or separately. These may be intra-abdominal or extra-abdominal and have the general appearance and configuration of either a testis or ovary. The phallus rarely resembles a normal penis in size or form and is apt to be quite short but readily erectable. There is frequently a penoscrotal hypospadias. In some cases there are folds over the phallus described as labia majora, whereas in the majority of cases there is a bifid scrotum behind the phallus.

Most of these patients possess müllerian duct structures, and a uterus is usually present. As they mature they have the potentiality of forming secondary characteristics of either sex and in general exhibit combinations of somatic developments and psychic attitudes of both, leading to bewildering and bizarre complexes.

Experimental studies in animals have demonstrated that androgenic hormones given at specific times during fetal life induce masculinizing effects on developing genitalia of female embryos. Little is known about the effects of administering androgenic hormones on the human fetus. Female rabbit fetuses treated by intraperitoneal implantation of testosterone on the nineteenth day of fetal life develop male-appearing external genitalia. Two infant monkeys were female pseudohermaphrodites and the third was less extensively masculinized. The anatomic anomalies observed in animals correspond grossly with those observed in patients with the adreno-genital syndrome or spontaneously occurring female pseudohermaphroditism. Similar effects of androgenic hormones on the developing female genitalia have been observed in a variety of experimental animals. Hayles and Nolan[15] report the case of a woman who received methyltestosterone during pregnancy and was delivered of a female pseudohermaphrodite. This represented the third case of a female pseudohermaphrodite born of a mother treated with hormones during pregnancy. They suggest that caution be used in administering androgens to pregnant women.

Regarding the management of these difficult cases, a few generalities may be made with full realization that each patient presents his peculiar problem for solution.

Rearing true hermaphrodites as females has certain advantages. They are afforded greater personal privacy by society. The genital malformations can be transformed reasonably well, including orchiectomy, vaginoplasty, and possibly amputation of a phallus. Since urination is done in a sitting position it is not necessary to alter the urethra. The reproductive tract may be satisfactory for sexual intercourse.

On the other hand, rearing true hermaphrodites as males has real disadvantages. Social adjustments are more difficult because there is less personal privacy. Removal of ovaries, vagina, uterus and tubes does not present too difficult a task, but it may be extraordinarily difficult or even impossible to construct a satisfactory penis and urethra.

Wilkins et al[16, 17] state there is a great deal of confusion in the method of treating an individual with ambisexual development and a lack of understanding of the principles by which the sex of rearing should be selected. Frequently the sex of rearing is chosen unwisely because of the traditional belief that the gonads or the hormones which the sex chromosomal pattern produces are inevitably intrinsic determinants of an individual's psychosexual development and inclinations.

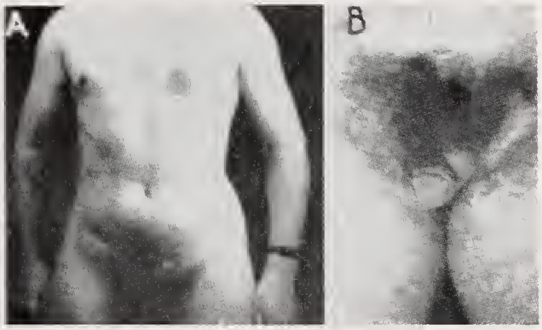


FIG. 1. (A) Android type of figure with gynecomastia; (B) typical phallus and absence of scrotum.

REPORT OF CASE

When I originally reported the present case the patient had been reared as a male and at that time was 20 years of age.[18] The scrotum was replaced by labial folds, and the urinary meatus was situated 1 cm. from the anus. The phallus was 4 by 7 cm., somewhat smaller than normal and attached to the labia. An attempt had been made elsewhere to locate the right gonad through an inguinal incision, but since the bladder was inadvertently opened further exploration was deferred.

It was necessary for the patient to assume a sitting position to urinate, a constant source of embarrassment in school. There was no evidence of menstruation nor were any cyclic emotional disturbances noted during adolescence. The contour of the body and deposit of fat were typically male (figure 1).

Two No. 10 F sounds could be passed simultaneously into the urinary meatus without touching, 1 presumably into the bladder, and the other into a rudimentary vagina which connected to the urethra 3 cm. proximal to the single external opening. This cul-de-sac was approximately 8 cm. in length. The prostate and seminal vesicles were absent. The urine and blood examinations were normal. An estimation of estrogen-androgen content of the urine indicated an androgen estimation of 59 I. U. and an estrogen rate of 20.4 I. U., a ratio of 2.9. The 17-ketosteroids were 713 per liter. The individual was obviously bisexual, scarcely more male than female, although the psychologic attitude and secondary sex characteristics were definitely android.

In view of these findings and the fact that the parents were anxious to have the patient's true sex determined the right inguinal canal was again explored and found empty. The upper angle of the incision was enlarged in order that the peritoneal cavity could be explored. Near the midline a small and well-formed uterus was found with a small ovary and fallopian tube attached to the

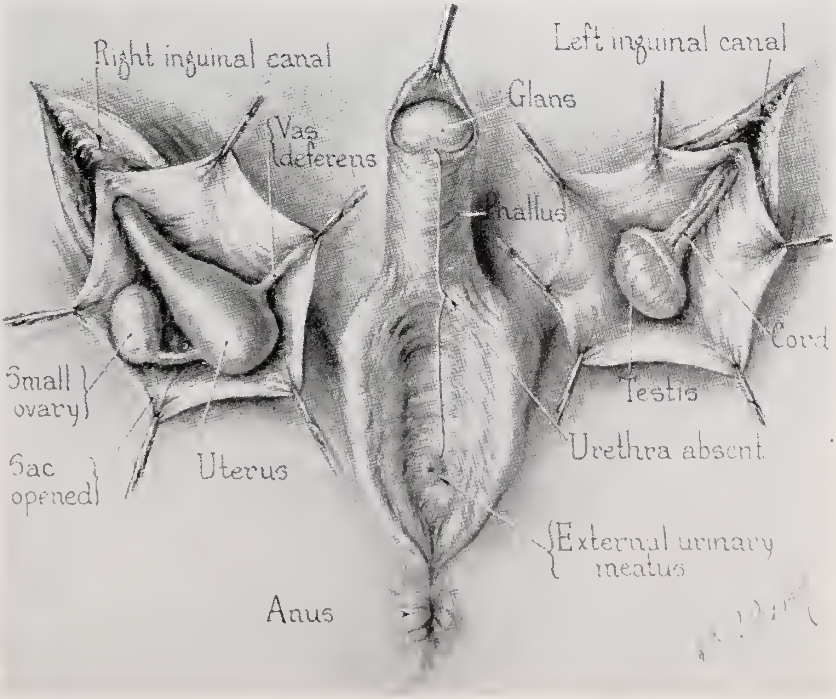


FIG. 2. Reconstructed illustrations of operative findings, showing normal-appearing phallus, labial folds of abnormal appearance, and absence of scrotum.

right cornu. On the left side a typical vas deferens was found but could not be traced to its distal attachment.

After a conference with a gynecologist (Dr. R. J. Jansen) and a general surgeon (Dr. F. X. McGovern), it was decided to consider the patient a male, and a hysterectomy and oöphorectomy were performed (figure 2). It was not thought expedient to explore the left inguinal canal at that time just to satisfy our surgical curiosity. Histologic examinations made by Drs. J. W. Lindsey and T. Winship confirmed the presence of uterine, testis, oviduct, and ovarian tissue (figures 3-A, B, C and D).

In the interim he resumed his school work and was placed on testosterone propionate 10 mg. weekly in an effort to stimulate his libido. Sixteen months later, while lifting a heavy object, the patient experienced sharp pain in the left inguinal region, and an examination revealed a mass in the left inguinal canal. On exploration it proved to be a well-formed but small testicle attached to a spermatic cord lying free in a hernial sac. The testis was placed in the left labial fold and anchored to the inner portion of the left thigh. A biopsy by Dr. O. B. Hunter, Jr. confirmed the presence of testicular elements (figure 4).

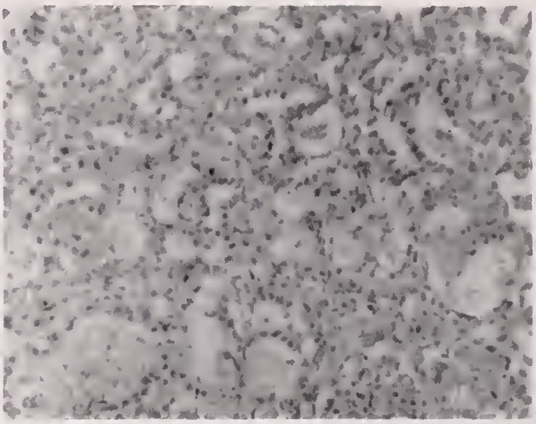


FIG. 4. Remnants of testicular tubules in excised tumor.

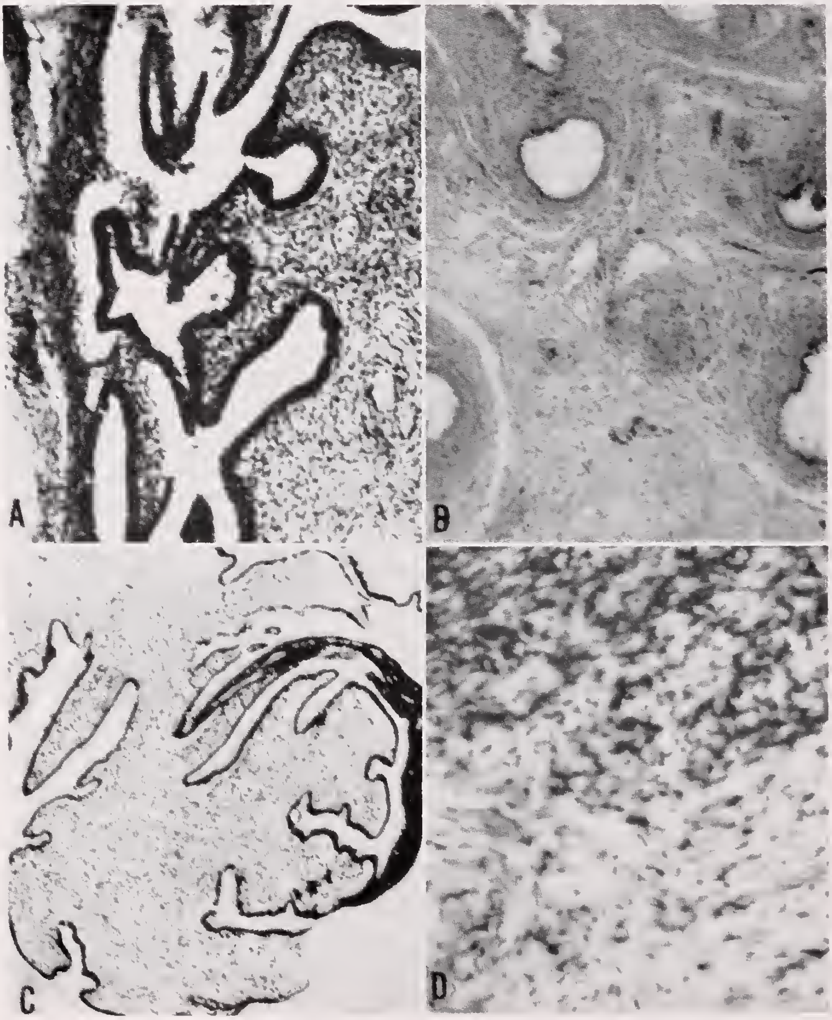


FIG. 3. Sections of removed tissues, showing (A) uterine tissue, (B) testicular tissue, (C) oviduct, and (D) ovarian tissue.

Because the patient had lost so much time from school the parents decided to defer the operation to relieve the perineal hypospadias. Two years later Dr. A. J. Suraci successfully restored the urethra to its normal position in the phallus, and the patient was able to micturate normally.

A year later the patient married. He reported that he was able to have erections and normal coitus. This statement was confirmed by his wife.

The patient was seen at regular intervals until November, 1957, when for the first time painful enlargement of the gonad in the left labial fold was observed. Three months later the mass had become painful, and further enlargement was

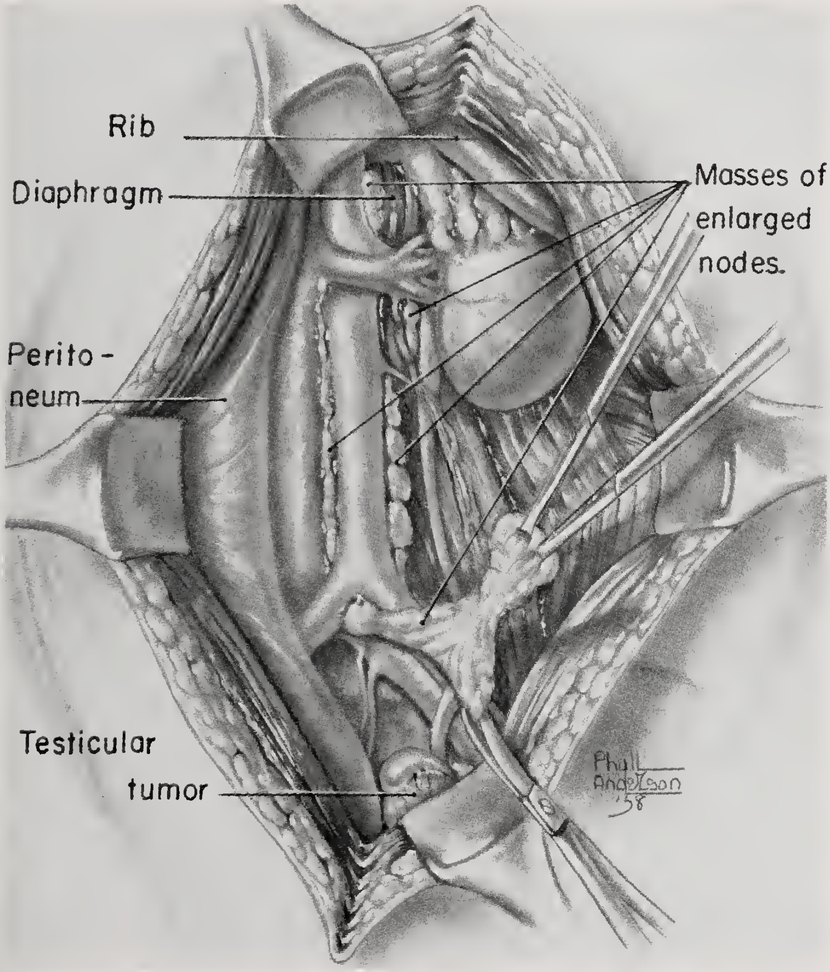


FIG. 5. Extent of enlargement of retroperitoneal lymph nodes. Excised nodes showed only chronic inflammation.

Chorionic gonadotropin determinations made every 3 months indicated that no active metastasis was present. The patient is quite well and has returned to his normal occupation. Oddly enough, he states that the testosterone injections are much more effective than before the orchiectomy.

Gilbert[19] reported on 5,516 testicular tumors in the registry, none of which showed a malignant tumor in a true hermaphrodite, whereas testicular tumors were found in 61 pseudohermaphrodites, 39 of which were seminomas, 14 teratomas, and 9 miscellaneous neoplasms.

The tumor in this case is extremely rare, since no known case has been reported in which embryonal carcinoma and seminoma were found in a true hermaphrodite, nor has a similar case been found in the files of the Armed Forces Institute of Pathology.

noted. An Aschheim-Zondek test at this time was negative. An orchiectomy and radical exploration of the retroperitoneal glands were performed, with Dr. C. H. Ligon assisting. At operation several masses of glands were noted along the aorta as high as the diaphragm (figure 5). Several nodes were also found around the kidney pedicle. Lymph nodes at various levels were resected but showed no metastasis. An examination by Dr. O. B. Hunter, Jr. of the removed testis showed embryonal carcinoma (figure 6) and seminoma (figure 7). No trophoblastic or teratomatous elements were identified.

The 17-ketosteroids ranged from 6 to 16 mg. in 24 hours. The urinary corticoids varied from 2 to 17 mg. for 24 hours, and the plasma corticoids were 12 gamma per 100 ml. The buccal smear for sex chromatin determination showed 6.5 sex chromatin bodies per 100 cells, compatible with male sex.

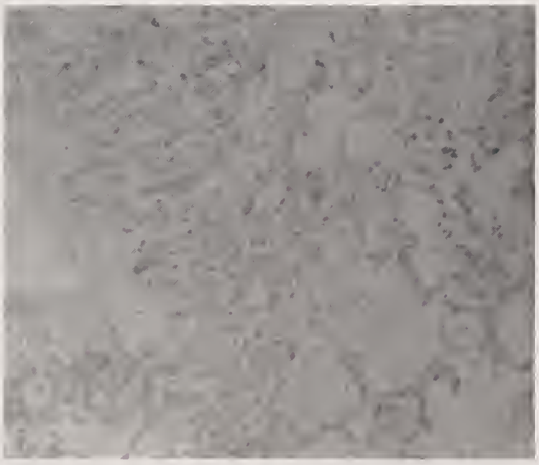


FIG. 6. Embryonal carcinoma of the testis.

Sixty-six cases of the development of malignant tumor of the testis after orchiopexy have been reported (Sumner[20]). The case here reported therefore brings the total known cases to 67.

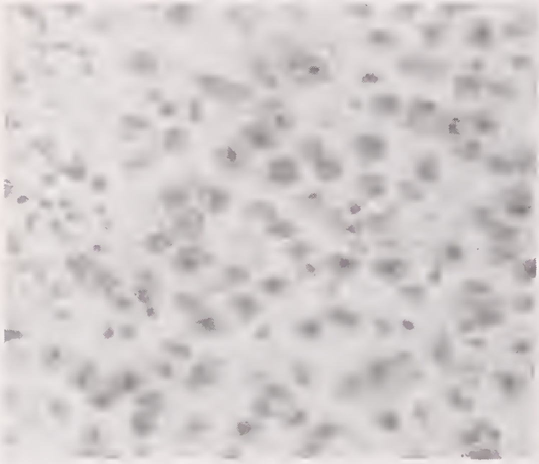


FIG. 7. Seminoma from the same testis.

SUMMARY

An extremely rare testicular tumor composed of embryonal and seminoma elements was found in a true hermaphrodite.

A testis may undergo malignant changes if left in the warm environment of the inguinal canal or peritoneal cavity, as evidenced by 67 known cases. Since sterility is a frequent finding, undescended testes should be placed either in their normal position in the scrotum or removed.

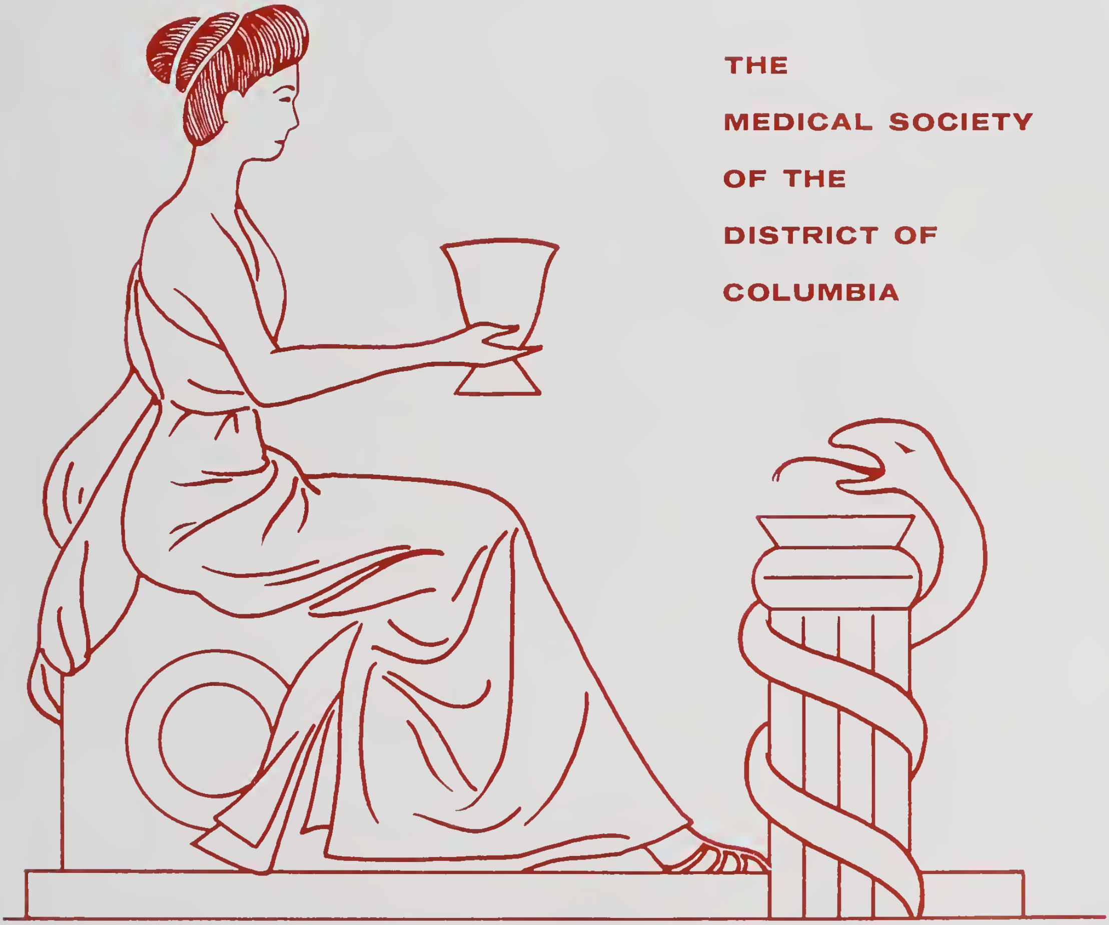
In determining the sex of the pseudohermaphrodite great care must be used initially, since it is very difficult to change the sex later because of the social factors involved.

BIBLIOGRAPHY

1. DANON, M., AND SACHS, L.: Science, 1957, **126**, 1187.
2. ASHLEY, D. J., AND JONES, C. H.: Lancet, 1958, **1**, 24.
3. BARR, M. L.: Surg. Gynec. & Obst., 1954, **99**, 184.
4. LEHMAN, T. H., HODGES, C. V., AND OYAMADA, A.: J. Urol., 1959, **81**, 172.
5. RATHBUN, J. C., PLUNKETT, E. R., AND BARR, M. L.: Pediat. Clin. North America, May 1958, p. 375.
6. DAVIDSON, W. M. (London), AND SMITH, D. R.: Brit. M. J., 1954, **2**, 6.
7. BARR, M. L.: Personal communication.
8. GRUMBACH, M. M., VAN WYK, J. J., AND WILKINS, L.: J. Clin. Endocrinol., 1955, **115**, 1161.
9. JOST, A.: Gynéc. et obst., 1950, **49**, 44.
10. RAYNAUD, A., AND FRILLEY, M.: Ann. d'endocrinol., 1947, **8**, 400.
11. HAMPSON, J. G.: Bull. Johns Hopkins Hosp., 1955, **96**, 265.
12. MONEY, J., HAMPSON, J. G., AND HAMPSON, J. L.: Ibid., 1955, **97**, 301.
13. MONEY, J.: Ibid., 1955, **96**, 253.
14. GROSS, R. E., AND MEEKER, I. A., JR.: Pediatrics, 1955, **16**, 303.
15. HAYLES, A. B., AND NOLAN, R. B.: Proc. Staff Meet. Mayo Clin., 1957, **32**, 41.
16. WILKINS, L., AND OTHERS: Pediatrics, 1955, **16**, 287.
17. WILKINS, L., JONES, W. H., JR., HOLMON, G. H., AND STEMPFEL, R. S., JR.: J. Clin. Endocrinol., 1958, **18**, 559.
18. STIRLING, W. C., AND SURACI, A. J.: J. Urol., 1951, **65**, 1119.
19. GILBERT, J. B.: Ibid., 1942, **48**, 665.
20. SUMNER, W. A.: Ibid., 1959, **81**, 150.

28TH

ANNUAL SCIENTIFIC ASSEMBLY



THE
MEDICAL SOCIETY
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COLUMBIA

The STATLER-HILTON, WASHINGTON — NOVEMBER 23-24-25, 1959

This Is Your Opportunity

Dr. Foret

As readers will discover by examining the following pages, the program for the 28th ANNUAL SCIENTIFIC ASSEMBLY more than justifies the term "comprehensive," for it covers a broad field in modern medicine. It will be noted that not only are topics of general interest to physicians presented but subjects in such limited areas as ophthalmology, dermatology and radiology are also included. It can be truly said then that this is a rare opportunity for all physicians throughout the Washington Metropolitan Area and in nearby states to participate in a meeting of unusual caliber.

Many of the outstanding physicians appearing on the program are connected with Washington medical institutions; however, there are a score of eminent physicians from all parts of the United States. Among them are: Dr. Michael DeBakey, Professor of Surgery, Baylor University College of Medicine; Dr. H. Dabney Kerr, Emeritus Professor of Radiology, University of Iowa College of Medicine; Dr. Landon Parsons, Professor of Obstetrics and Gynecology, Boston University School of Medicine; Dr. Henry L. Bockus, Chairman of the Department of Internal Medicine, the Graduate School of Medicine, University of Pennsylvania; and Dr. Warren E. Wacker, Harvard Medical School. As will be noted, there are other visitors on the program of equal stature. So it can truly be said that this is an exceptional opportunity for all physicians who wish to keep abreast of the latest developments in the medical field.

Speaking for the Committee, I wish to extend a cordial welcome to all to attend with the sincere hope that they will find this ASSEMBLY instructive and enjoyable.

Marcel J. Foret

GENERAL CHAIRMAN
COMMITTEE ON ARRANGEMENTS

28th ANNUAL SCIENTIFIC ASSEMBLY

MODERN MEDICINE IN REVIEW

SCIENTIFIC PROGRAM

All Sessions in Presidential Ballroom, Hotel Statler,
Unless Othfrwise Stated

MONDAY, NOVEMBER 23—MORNING SESSION

W. LeRoy Dunn, M.D., *Presiding*

President, The Medical Society of the District of Columbia

9:00 Welcome from the President

9:05 Panel: HEPATIC COMA

Moderator:

Irving B. Brick, M.D.

Associate Professor of Medicine, Georgetown University School of Medicine; Chief, Division of Gastroenterology, Georgetown University Hospital

Panelists:

William V. McDermott, Jr., M.D.

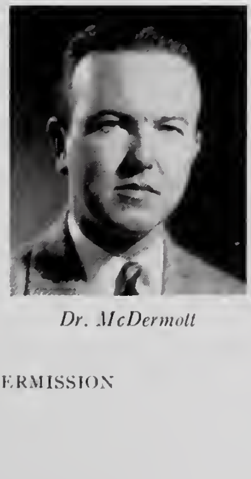
Assistant Clinical Professor of Surgery, Harvard Medical School; Associate Visiting Surgeon, Massachusetts General Hospital

Howard E. Ticktin, M.D.

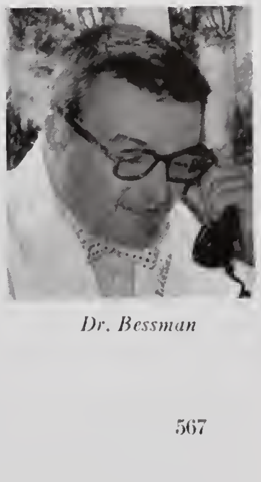
Associate in Medicine, George Washington University School of Medicine; Chief Medical Officer, George Washington Medical Service, District of Columbia General Hospital

Samuel P. Bessman, M.D.

Associate Professor of Pediatrics and Associate Professor of Biochemistry, University of Maryland School of Medicine

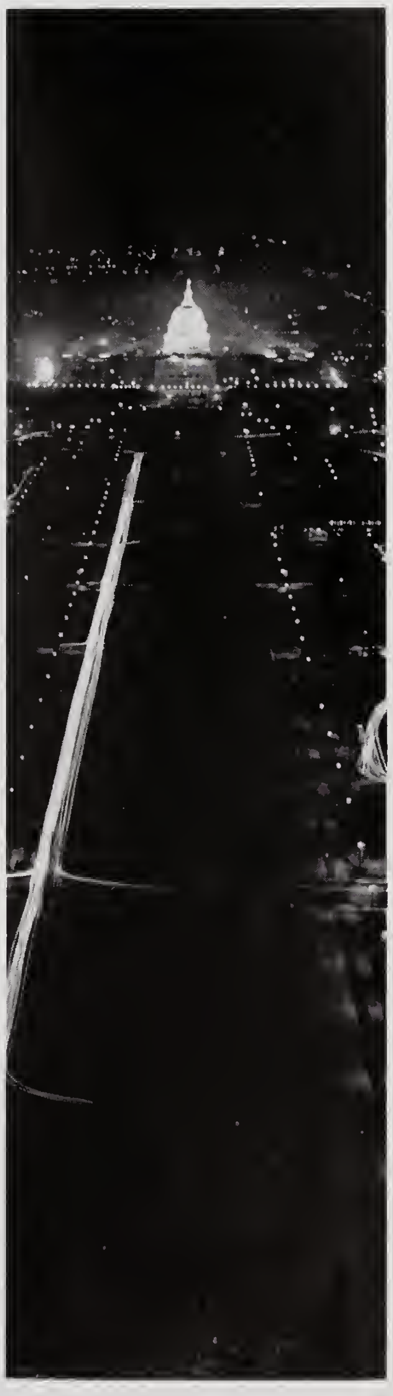


Dr. McDermott



Dr. Bessman

10:30 Intermission



10:40 Panel: RECENT ADVANCES IN DIAGNOSIS AND THERAPY OF CEREBROVASCULAR SYNDROMES

MODERATOR:

Harold Stevens, M.D.
Professor and Head of the Department of Neurology, George Washington University School of Medicine

Dr. Kety

Dr. Alpers

PANELISTS:

Seymour S. Kety, M.D.
Chief, Laboratory of Clinical Science, National Institute of Mental Health

Bernard J. Alpers, M.D.
Professor and Head of the Department of Neurology, Jefferson Medical College of Philadelphia

John P. Gallagher, M.D.
Associate Professor of Neurosurgery, Georgetown University School of Medicine

12:00 RECESS FOR LUNCHEON

MONDAY, NOVEMBER 23—MORNING SESSION

(PAN AMERICAN ROOM)

Preston A. McLendon, M.D., *Presiding*

Chairman, Executive Board, The Medical Society of the District of Columbia

9:15 IRON DEFICIENCY IN PEDIATRICS

Sanford L. Leikin, M.D.
Instructor in Pediatrics, George Washington University School of Medicine; Hematologist, Children's Hospital

9:45 SALICYLATE INTOXICATION

Seymour Goldblatt, M.D.
Instructor in Pediatrics, George Washington University School of Medicine; Fellow in Adolescent Medicine, George Washington University School of Medicine

Joseph M. LoPresti, M.D.
Clinical Associate Professor of Pediatrics, Georgetown University School of Medicine; Senior Attending Physician, Children's Hospital

10:15 INTERMISSION

10:30 Panel: SCHOOL HEALTH

MODERATOR:

Harold M. Hobart, M.D.
Chairman, Subcommittee on Child Welfare, The Medical Society of the District of Columbia

PANELISTS:

Carl F. Hansen, Ph.D.
Superintendent of Schools for the District of Columbia

Dr. Hansen

Marvin E. Perkins, M.D.
Chief, Bureau of Mental Health, Department of Public Health, District of Columbia

Grace L. Stone, M.D.
Chief, Bureau of School Health, Service Division of Maternal and Child Health, Department of Public Health, District of Columbia

Richard H. Todd, M.D.
Chairman, Section on Pediatrics, The Medical Society of the District of Columbia; Assistant Clinical Professor of Pediatrics, Georgetown University School of Medicine

William F. Burdick, M.D.
Professor of Clinical Pediatrics, Georgetown University School of Medicine; Program Director, Adolescent Unit, Children's Hospital

Preston A. McLendon, M.D.
Emeritus Professor of Pediatrics, George Washington University School of Medicine; Chairman, Committee on Juvenile Delinquency, American Academy of Pediatrics

12:00 Recess for Luncheon

MONDAY, NOVEMBER 23—AFTERNOON SESSION

Philip H. Philbin, M.D., *Presiding*

Chairman, Program Committee, 28th Annual Scientific Assembly

2:15 Panel: HIATAL HERNIAS

Moderator:

Ernest Gould, M.D.
Chairman, Department of General Surgery, Washington Hospital Center; Instructor in Surgery, George Washington University School of Medicine

Panelists:

Michael E. DeBakey, M.D.
Professor of Surgery and Chairman, Cora and Webb Mading Department of Surgery, Baylor University College of Medicine

Brian Blades, M.D.
Professor of Surgery, George Washington University School of Medicine; Chief of Surgery, George Washington University Hospital

Colonel B. H. Sullivan, Jr., MC, USA
Chief, Gastroenterology Section, Walter Reed Army Hospital

Maurice Mensh, M.D.
Assistant Clinical Professor of Medicine, George Washington University School of Medicine

3:35 Intermission

3:45 Panel: PERIPHERAL ARTERIAL DISEASE

Moderator:

Andrew G. Prandoni, M.D.
Assistant Clinical Professor of Medicine, George Washington University School of Medicine; Director, Peripheral Vascular Clinic, George Washington University Hospital

Panelists:

Michael E. DeBakey, M.D.
Professor of Surgery and Chairman, Cora and Webb Mading Department of Surgery, Baylor University College of Medicine

William H. Muller, Jr., M.D.
Stephen H. Watts Professor and Chairman, Department of Surgery, University of Virginia Medical Center

Charles A. Hufnagel, M.D.
Professor of Surgery, Georgetown University School of Medicine

5:00 Adjournment

Dr. DeBakey

Col. Sullivan

Dr. Muller

MONDAY, NOVEMBER 23—AFTERNOON SESSION

(PAN AMERICAN ROOM)

Edward W. Nicklas, M.D., *Presiding*

First Vice President, The Medical Society of the District of Columbia

2:15 Panel: GLAUCOMA IN GENERAL PRACTICE

MODERATOR:

Thomas E. Haggerty, M.D.

Dr. Haggerty

Instructor in Ophthalmology, Georgetown University School of Medicine; Director, Tonography Laboratory, Washington Hospital Center

PANELISTS:

Members of the Section on Ophthalmology of the Medical Society of the District of Columbia; Walter J. Romejko, M.D., Chairman

3:35 INTERMISSION

3:45 Panel: COMMON DERMATOLOGICAL PROBLEMS

CO-MODERATORS:

Marc A. Weiner, M.D.

Consulting Dermatologist, Veterans Benefits Office, Washington

Raymond A. Osbourn, M.D.

Clinical Associate Professor of Dermatology, Georgetown University School of Medicine

PANELISTS:

Members of the Section on Dermatology and Syphilology of the Medical Society of the District of Columbia; Lawrence B. McCaleb, M.D., Chairman

5:00 ADJOURNMENT

TUESDAY, NOVEMBER 24—MORNING SESSION

Fofo Mezitis, M.D., *Presiding*

Second Vice President, The Medical Society of the District of Columbia

9:00 Panel: CARCINOMA OF CERVIX

MODERATOR:

J. Keith Cromer, M.D.

Assistant Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine; Director, Department of Obstetrics and Gynecology, Doctors Hospital; Vice Chairman, Department of Gynecology, Washington Hospital Center

PANELISTS:

H. Dabney Kerr, M.D.

Emeritus Professor of Radiology, University of Iowa College of Medicine; Secretary, American Board of Radiology

Dr. Kerr

Dr. Parsons

Langdon Parsons, M.D.

Professor of Obstetrics and Gynecology, Boston University School of Medicine; Chairman, Department of Obstetrics and Gynecology, Boston University School of Medicine

Colonel H. L. Riva, MC, USA
Chief, Obstetric and Gynecologic Service, Walter Reed Army Hospital; Consultant to Surgeon General in Obstetrics and Gynecology, U. S. Army

Howard C. Taylor, Jr., M.D.
Professor and Chairman, Department of Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons

10:25 Intermission

10:35 Panel: PANCREATITIS

Moderator:

Alec Horwitz, M.D.
Professor of Clinical Surgery, George Washington University School of Medicine

Panelists:

Henry LeRoy Bockus, M.D.
Chairman, Department of Internal Medicine, The Graduate School of Medicine, University of Pennsylvania

Col. Riva

Dr. Taylor

Robert J. Coffey, M.D.
Professor and Chairman, Department of Surgery, Georgetown University School of Medicine

Henry Doubilet, M.D.
Associate Professor of Surgery, New York University College of Medicine

Jonathan E. Rhoads, M.D.
Professor of Surgery, University of Pennsylvania School of Medicine

12:00 Recess for Luncheon

Dr. Bockus

Dr. Doubilet

Dr. Rhoads

TUESDAY, NOVEMBER 24—MORNING SESSION

(PAN AMERICAN ROOM)

O. Hugh Fulcher, M.D., *Presiding*

Chairman, Board of Credentials, The Medical Society of the District of Columbia

9:00 Panel: VARYING ASPECTS OF HEADACHES—ORGANIC AND EMOTIONAL

Moderator:

Desmond O'Doherty, M.D.
Associate Professor of Neurology, Georgetown University School of Medicine

Panelists:

Members of the Section on Neurology, Neurosurgery, and Psychiatry of the Medical Society of the District of Columbia

10:25 Intermission

10:35 Panel: THE PROBLEM OF THE EXCEPTIONAL CHILD—SUPERIOR AND INFERIOR

Moderator:

Marvin C. Korengold, M.D.
Clinical Instructor in Neurology, George Washington University School of Medi-

cine; Chairman, Section on Neurology, Neurosurgery, and Psychiatry of the Medical Society of the District of Columbia

PANELISTS: Members of the Section on Neurology, Neurosurgery, and Psychiatry of the Medical Society of the District of Columbia

12:00 RECESS FOR LUNCHEON

TUESDAY, NOVEMBER 24—AFTERNOON SESSION

Edward W. Nicklas, M.D., *Presiding*

First Vice President, The Medical Society of the District of Columbia

2:00 Panel: USES AND ABUSES OF BLOOD TRANSFUSIONS

MODERATOR:

Colonel William H. Crosby, MC, USA

Chief, Department of Hematology, Walter Reed Army Medical Center

PANELISTS:

Jack J. Rheingold, M.D.

Assistant Professor of Medicine, George Washington University School of Medicine; Consultant in Hematology, Walter Reed Army Hospital and Mt. Alto Veterans Administration Hospital

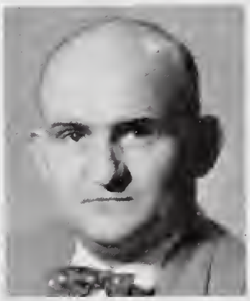
Raymond O. Dart, M.D.

Director, Washington Regional Blood Program, American National Red Cross

John M. Howard, M.D.

Professor of Surgery, Hahnemann Medical College and Hospital

3:25 INTERMISSION



Dr. Howard

Dr. Wacker

Dr. Wroblewski

3:35 Panel: ENZYMES IN DIAGNOSIS

MODERATOR:

Laurence H. Kyle, M.D.

Professor and Chairman, Department of Medicine, Georgetown University School of Medicine

PANELISTS:

Bernard H. Ostrow, M.D.

Clinical Instructor in Medicine, George Washington University School of Medicine

Warren E. C. Wacker, M.D.

Associate in Medicine, Harvard Medical School and Peter Bent Brigham Hospital; Investigator, Howard Hughes Medical Institute

Felix Wróblewski, M.D.

Assistant Professor of Clinical Medicine, Cornell University Medical College; Attending Physician, Memorial Center for Cancer and Allied Diseases

5:00 ADJOURNMENT

TUESDAY, NOVEMBER 24—AFTERNOON SESSION

(PAN AMERICAN ROOM)

Marcel J. Foret, M.D., *Presiding*

General Chairman, Committee on Arrangements, 28th Annual Scientific Assembly

2:00 FILM READING SESSION

MODERATOR:

Fred O. Coe, M.D.

Chief, Department of Radiology, and Chief-of-staff, Doctors Hospital, Washington

PANELISTS:

Members of the Section on Radiology of the Medical Society of the District of Columbia; George Tievsky, M.D., Chairman

3:25 INTERMISSION

3:35 Panel: THE PROSTATE GLAND

MODERATOR:

William P. Herbst, M.D.

Clinical Professor of Urology, Georgetown University School of Medicine

PANELISTS:

Roger Baker, M.D.

Professor and Director, Department of Urology, Georgetown University School of Medicine

W. Dabney Jarman, M.D.

Assistant Clinical Professor of Urology, George Washington University School of Medicine

Herbert A. Goldberg, M.D.

Clinical Instructor in Urology, George Washington University School of Medicine

Leon R. Culbertson, M.D.

Associate Clinical Professor of Urology and Executive Officer, Department of Urology, George Washington University School of Medicine

5:00 ADJOURNMENT

WEDNESDAY, NOVEMBER 25—MORNING SESSION

Marcel J. Foret, M.D., *Presiding*

General Chairman, Committee on Arrangements, 28th Annual Scientific Assembly

9:00 Panel: EMERGENCIES IN PREGNANCY

MODERATOR:

Samuel M. Dodek, M.D.

Associate Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine; Chairman, Department of Obstetrics, Washington Hospital Center

NONOBSTETRICAL SURGICAL COMPLICATIONS OF PREGNANCY

Philip A. Caulfield, M.D.

Associate Professor of Surgery, Georgetown University School of Medicine

INTRAPARTUM AND POSTPARTUM COMPLICATIONS OF PREGNANCY NOT INCLUDING TOXEMIAS

John Parks, M.D.

Professor of Obstetrics and Gynecology, George Washington University School of Medicine; Dean of the School of Medicine, George Washington University

CARDIOVASCULAR RENAL COMPLICATIONS OF PREGNANCY AND THEIR EMERGENCY MANIFESTATIONS

Frank A. Finnerty, M.D.

Assistant Professor of Medicine and Pharmacy, Georgetown University School of Medicine

ANTENATAL OBSTETRIC EMERGENCIES NOT INCLUDING TOXEMIA

Francis Bayard Carter, M.D.

Professor and Chairman of the Department of Obstetrics and Gynecology, Duke University Medical Center

10:25 INTERMISSION

10:35 Panel: EMERGENCIES IN THE NEWBORN

Moderator:

Robert H. Parrott, M.D.
Physician-in-chief, Children's Hospital, Washington; Director of Children's Hospital Research Foundation

Panelists:

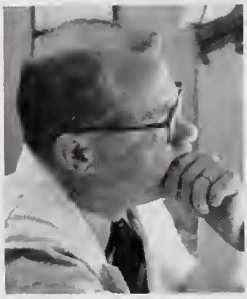
Harry H. Gordon, M.D.
Chief of Pediatrics, Sinai Hospital of Baltimore; Associate Professor of Pediatrics, Johns Hopkins University School of Medicine

John W. Hope, M.D.
Director, Department of Radiology, The Children's Hospital of Philadelphia

Mark M. Ravitch, M.D.
Surgeon-in-chief, Sinai Hospital of Baltimore

12:00 Recess for Luncheon

Dr. Gordon


Dr. Hope

Dr. Ravitch

WEDNESDAY, NOVEMBER 25—MORNING SESSION

(PAN AMERICAN ROOM)

Philip H. Philbin, M.D., *Presiding*

Chairman, Program Committee, 28th Annual Scientific Assembly

9:00 Panel: LOWER EXTREMITIES IN CHILDREN

Moderator:

William J. Tobin, M.D.
Associate Professor of Orthopedic Surgery, Georgetown University School of Medicine; Chief, Orthopedic Services, Washington Hospital Center

Panelists:

Allan M. McKelvie, M.D.
Clinical Instructor in Orthopedics, Georgetown University School of Medicine; Attending Orthopedic Surgeon, Georgetown Division, District of Columbia General Hospital

John P. Adams, M.D.
Associate Clinical Professor of Orthopedic Surgery, George Washington University School of Medicine

Carl Berg, M.D.
Assistant Clinical Professor of Orthopedic Surgery, George Washington University School of Medicine

10:25 Intermission

10:35 Panel: ORTHOPEDIC ASPECTS OF AGING

Moderator:

Leonard T. Peterson, M.D.
Assistant Clinical Professor of Orthopedic Surgery, George Washington University School of Medicine

Panelists:

Julius S. Neviaser, M.D.
Assistant Clinical Professor of Orthopedic Surgery, George Washington University School of Medicine

Milton C. Cobey, M.D.
Professor of Orthopedic Surgery, Georgetown University School of Medicine

Henry L. Feffer, M.D.
Assistant Clinical Professor of Orthopedic Surgery, George Washington University School of Medicine

12:00 Adjournment

WEDNESDAY, NOVEMBER 25—AFTERNOON SESSION

W. LeRoy Dunn, M.D., *Presiding*

President, The Medical Society of the District of Columbia

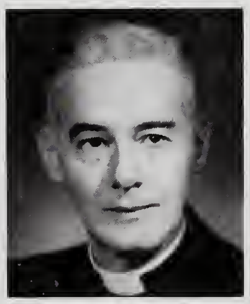
2:00 CLINICOPATHOLOGICAL CONFERENCE

MODERATOR:

Louis B. Thomas, M.D.

Head, Surgical Pathology and Postmortem Service, National Cancer Institute

Dr. Thomas



Dr. Creighton

DISCUSSANTS:

Calvin T. Klopp, M.D.

Warwick Associate Professor of Surgery, George Washington University School of Medicine

John M. Evans, M.D.

Associate Professor of Medicine, George Washington University School of Medicine

Sol Katz, M.D.

Associate Professor of Medicine, Georgetown University School of Medicine

Darrell C. Crain, M.D.

Clinical Associate Professor of Medicine, Georgetown University School of Medicine

3:25 INTERMISSION

3:35 Panel: PHYSICIAN KNOW THY FAMILY

MODERATOR:

Henry P. Laughlin, M.D.

Associate Clinical Professor of Psychiatry, George Washington University School of Medicine

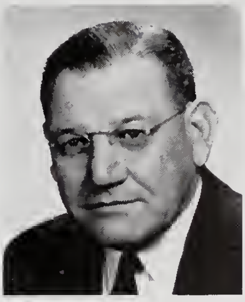
PANELISTS:

The Right Reverend William F. Creighton, D.D.

Bishop Coadjutor, Episcopal Diocese of Washington

Petrena Abbe Shea, M.D.

Obstetrician and Gynecologist; Wife of Dr. S. Hazen Shea



Dr. Felix

Mrs. Burdick

Robert H. Felix, M.D.

Director, National Institute of Mental Health; President-elect, American Psychiatric Association

Mrs. Margaret Burdick

Wife of Dr. William F. Burdick, Washington Pediatrician

5:00 ADJOURNMENT

The Scientific Exhibit

The Scientific Exhibit will be on display in the South American Room, the California Room, Foyer 3, and in the Capital Terrace of the Hotel Statler. Below is a list of the exhibits and the sponsors:

Titles	*Exhibitors*
Aging	American Medical Association
Applications of Extra-corporeal Pump	John F. Gillespie, M.D., and Charles A. Hufnagel, M.D., Georgetown University School of Medicine
Basic Fundamentals of Asthma	Marvin Fuchs, M.D., and Henry Ogden, M.D.
Blood Transfusion Standards	Frank E. Wilson, M.D., Joint Blood Council, Inc.
Clinical Application of the Sach Foot	Everett J. Gordon, M.D., and C. F. Mueller, M.D., Veterans Administration
Clinical Study of Bunamiodyl, a New Contrast Medium for Oral Cholecystography and Cholangiography	Charles E. Bickham, Jr., M.D., James E. Wissler, M.D., Forrest V. Schumacher, M.D., and Albert J. Miele, M.D.
Complications of Gall Stones	Henry H. Balch, M.D., John K. Donahue, M.D., and John Rawlings, M.D.
Deaths in Children 48 Hours after Hospital Admission	Thomas E. Reichelderfer, M.D., Robert L. Baird, M.D., Alphonse P. Palmieri, M.D., and Helen J. Ossofsky, M.D., D. C. General Hospital
Diagnosis and Treatment of Muscular Dystrophy	Desmond S. O'Doherty, M.D., Margaret Kenrick, M.D., and Joseph Perloff, M.D.
Errors and Hazards in Biliary Surgery	Philip A. Caulfield, M.D., and Howard S. Madigan, M.D., Department of Surgery, Providence Hospital
Fractures in Children	Sunshik S. Shim, M.D., and William J. Tobin, M.D.
Medicine Advances with Safe New Drugs	Bureau of Medicine, Food and Drug Administration
Medicolegal Autopsy (Gunshot Wounds)	Russell S. Fisher, M.D., Paul F. Guerin, M.D., Captain W. M. Silliphant, MC, USN, and Major Edward H. Johnston, MC, USA, Armed Forces Institute of Pathology
Pediatric Diagnostic Clinic	Captain Thomas E. Cone, Jr., MC, USN, and Lieutenant Howard A. Pearson, MC, USN, U. S. Naval Hospital
Poison Control Center	Charles J. Savarese, Jr., M.D., Suburban Hospital
Pulmonary Hypertensive Cardiovascular Disease	Major Robert J. Hall, MC, USA, Thomas W. Mattingly, M.D., and Colonel Loren F. Parmley, MC, USA
Retrograde Femoral Arteriography in Obstetrics and Gynecology	Lt. Commander Richard L. Bemstine, MC, USN, U. S. Naval Hospital, St. Albans, Long Island, N. Y.
Returning the Coronary Patient to Productivity	Shepard Shapiro, M.D., New York, N. Y.
The Clinician and Vaginal Cytology	Lois I. Platt, M.D., Jed W. Pearson, Jr., M.D., and William T. Lady, M.D., George Washington University School of Medicine

THE CRYSTALLINE LENS. ELECTRON MICROSCOPIC INVESTIGATIONS OF THE NORMAL FINE STRUCTURE AND EXPERIMENTALLY-INDUCED CATARACTS	Theodor Wanko, M.D., National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland
THE FLUOROSCOPIC IMAGE AMPLIFIER AND ITS CLINICAL APPLICATIONS	George Tievsky, M.D.
THE HEMOLYTIC ANEMIAS OF INFANCY AND CHILDHOOD	Sanford Leikin, M.D., George Emmanuelides, M.D., and Gloria Eng, M.D.
THE MANAGEMENT OF ARTERIOSCLEROTIC PERIPHERAL ARTERIAL OCCLUSION	John M. Keshishian, M.D., Andrew G. Prandoni, M.D., and Juan B. Calatayud, M.D.
THE "NORMAL" LUMBOSACRAL SPINE	Major Francis Kruse, Jr., MC, USAF, Major Neil E. Crow, MC, USAF, and Major Byron G. Brogdon, MC, USAF
THE PREVALENCE OF INTESTINAL PARASITES IN FOREIGN SERVICE EMPLOYEES AND THEIR DEPENDENTS	Donald E. Kayhoe, M.D., Henry K. Beye, M.D., and George B. George, M.D.

Motion Pictures

Literally dozens of film catalogues were reviewed by the Committee on Motion Pictures in an effort to obtain the best scientific films for showing during the ASSEMBLY. A special feature of this year's program will be "No Margin for Error" and "A Matter of Fact," the latest in a series of films on doctor and lawyer relations. Other films produced by the Wm. S. Merrell Company, in coöperation with the American Medical Association and the American Bar Association, will also be included in the program. The official program will contain a list of the films and when they will be shown. The motion pictures will be seen in the New York Room, 9:00 a.m. to 5:00 p.m. daily.

Registration

Members of the Medical Society may register prior to the opening of the ASSEMBLY at the Society's Executive Offices in the Medical Society Building, 1718 M Street, N.W., on Thursday and Friday, November 19 and 20, between 9:00 a.m. and 4:45 p.m. The Registration Section at the Hotel Statler, located in the Federal Room, will open on November 23 at 8:30 a.m. Visiting physicians and Society members not previously registered may register and secure badges in the Registration Section. A cordial invitation to attend the ASSEMBLY is extended to medical officers of the Army, Navy, Air Force and Public Health Service, physicians employed by the Veterans Administration and other Governmental agencies, and members of the American Academy of General Practice. Invited, too, are residents, interns, senior medical students, dentists, pharmacists, nurses, and technicians. There is no registration fee.

Hotel Statler

Dinner Dance, Reception, and Luncheons

Members planning to attend the Medical Society Luncheon (see Calendar of Events) on the opening day of the Assembly, Monday, November 23, 1959, must register and secure their tickets at the Society's Executive Offices on Thursday or Friday, November 19 and 20, between 9:00 a.m. and 4:45 p.m. Each Active and Life member is entitled to *one ticket without charge as long as they last.* Associate and Affiliate members and nonmembers of the Society may purchase luncheon tickets at a cost of $3.75 each.

Tickets for luncheons given by the Georgetown University Medical Alumni and George Washington University Medical Society (see Calendar of Events) may be obtained at the Medical Society's Executive Offices on November 19 and 20, or following the opening of the Assembly in the Registration Section.

There will be a Dinner Dance on Monday evening, November 23, at 8 p.m., preceded by a Reception (cocktails) at 7 p.m. Hosts at the Reception will be Peoples Drug Stores. Entertainment and music by Sidney's Orchestra.

Annual Business Meeting

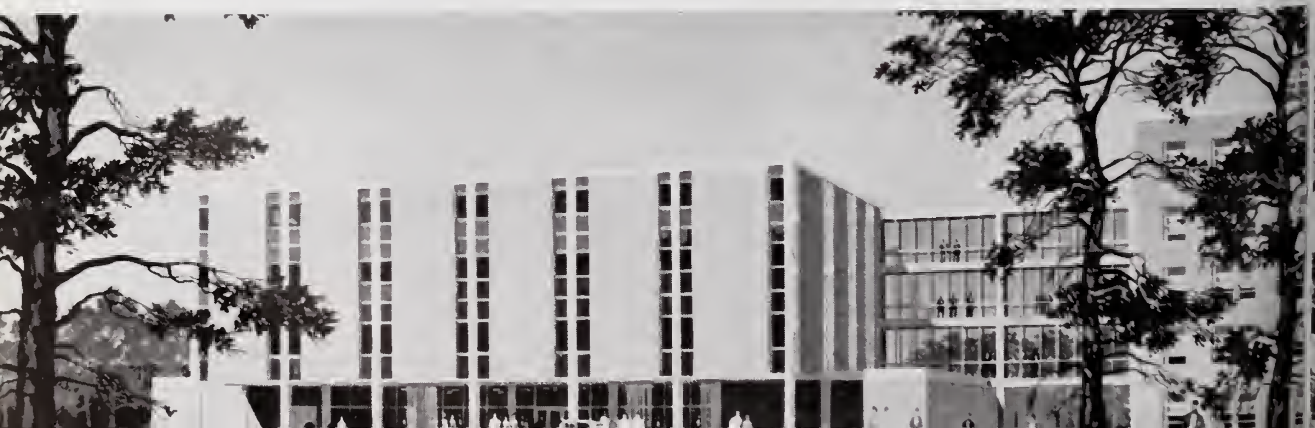
The Annual Business Meeting which will precede the Assembly is scheduled to be held in the Medical Society's Auditorium, 1718 M Street, N.W., on Sunday, November 22, 1959, at 5:00 p.m. Annual reports submitted by the Chairman of the Executive Board, the Board of Credentials, and the Secretary of the Society appear elsewhere in this issue of the Medical Annals. They will be acted upon by the Society at the Annual Business Meeting. An election of officers for the ensuing year will also be held. At the conclusion of the meeting, a buffet supper will be served in the library.

An agenda setting forth business to be transacted at the Annual Business Meeting will be sent to the membership well in advance.

Dinner for Doctors' Office Staffs

One of the most popular social events connected with the Assembly will be the Seventh Annual Dinner for Doctors' Office Staffs. It will differ from those which have been held before, emphasis being placed on entertainment. This will afford physicians who employ office assistants an opportunity to show their appreciation for faithful and efficient service. Included in the invitation to the dinner are doctors' secretaries, assistants, nurses, technicians, and receptionists—and doctors themselves. As in the past several years, the dinner will be held in the Presidential Ballroom of the Hotel Statler on Tuesday, November 24, 1959, at 7:00 p.m.

Architects' Sketch of the Lawrence C. Gorman Diagnostic and Research Building, Georgetown University Medical Center



Calendar of Events

All Meetings at the Hotel Statler

MONDAY, NOVEMBER 23, 1959

8:30 A.M.	Registration—Federal Room
8:45 A.M.	Scientific Exhibits open for inspection in South American Room, California Room, Foyer 3, and the Capital Terrace
9:00 A.M.	WELCOME: **W. LeRoy Dunn, M.D.**, President, The Medical Society of the District of Columbia
9:05 A.M.–12:00 P.M.	Scientific Program*
12:30 P.M.–2:00 P.M.	Medical Society Luncheon—Presidential Ballroom
	Awards Ceremony:
	Presentation of Certificate for Meritorious Service to HERBERT P. RAMSEY, M.D., Past President of The Medical Society of the District of Columbia
	Presentation of John Benjamin Nichols Award to LIONS CLUBS IN DISTRICT 22-C
	SPEAKER: **Hugh G. Head, Jr.**, Atlanta, Georgia, Fellow of the International Academy of Trial Lawyers of New York
	SUBJECT: "The Doctor Goes to Court"
2:15 P.M.–5:00 P.M.	Scientific Program
7:00 P.M.	Reception (cocktails)—Presidential Ballroom
	Hosts: PEOPLES DRUG STORES
8:00 P.M.	Dinner Dance—Presidential Ballroom
	Dancing and Musical Entertainment by SIDNEY'S ORCHESTRA (courtesy of BURTON, PARSONS & COMPANY, Washington, D. C.)

TUESDAY, NOVEMBER 24, 1959

8:30 A.M.	Registration—Federal Room
9:00 A.M.–12:00 P.M.	Scientific Program
12:15 P.M.–1:45 P.M.	Georgetown University Medical Alumni Luncheon—Presidential Ballroom
	SPEAKER: To be announced
	SUBJECT: To be announced
2:00 P.M.–5:00 P.M.	Scientific Program
7:00 P.M.	Seventh Annual Dinner for Doctors' Office Staffs

WEDNESDAY, NOVEMBER 25, 1959

8:30 A.M.	Registration—Federal Room
9:00 A.M.–12:00 Noon	Scientific Program
12:15 P.M.–1:45 P.M.	George Washington University Medical Alumni Luncheon—Presidential Ballroom
	SPEAKER: **Henry Loomis**, Director, Voice of America
	SUBJECT: "The Radio Contest in Africa"
2:00 P.M.–5:00 P.M.	Scientific Program

Mr. Loomis

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* The Scientific Program will be presented in the Presidential Ballroom and Pan American Room.

The Technical Exhibit

The Technical Exhibit will be on display in the Congressional and Federal Rooms and in Foyers 2 and 3. A list of the exhibitors follows:

	Booth No.
Abbott Laboratories	15
A. S. Aloe Company	30
Arcum Pharmaceutical Corporation	33
Ayerst Laboratories	55
The Baker Laboratories, Inc.	5
Beth-Mont Surgical Supply Company	50
Beuchler's, Inc.	22
Borden's Prescription Products Division	6
Boyce & Lewis, Inc.	72
Brayten Pharmaceutical Company	60
George A. Breon & Company	4
Burroughs Wellcome and Company, Inc.	36
Burton, Parsons & Company	59
Capital Credit Corporation	62
Ciba Pharmaceutical Products, Inc.	28
Davies, Rose & Company, Ltd.	27
The Dietene Company	2
Desitin Chemical Company	10
Doho Chemical Corporation	39
Eaton Laboratories	37
C. B. Fleet Company, Inc.	18
E. Fougera and Company, Inc.	70
Geigy Pharmaceuticals	66
Charles C. Haskell & Company, Inc.	16
H. J. Heinz Company	57
Nelson Kloman Surgical Supply Company	71
Knoll Pharmaceutical Company	73
Eli Lilly and Company	29
J. B. Lippincott Company	25
Maltbie Laboratories	7
Maxwell and Tennyson	40
Mead Johnson and Company	24
Merck, Sharp & Dohme	46
The William S. Merrell Company	17

	Booth No.
Milex of New York	3
The National Drug Company	58
Hermien Nusbaum & Associates	48
Organon, Inc.	65
Ortho Pharmaceutical Corporation	31
Parke, Davis & Company	34
Peoples Drug Stores, Inc.	35
Pet Milk Company	45
Wm. P. Poythress & Company, Inc.	19
Professional Business Management, Inc.	56
The Purdue Frederick Company	42
R. J. Reynolds Tobacco Company	38
R & G Orthopedic Appliances, Inc.	74
Rhinopto Company	61
A. H. Robins Company, Inc.	68
J. B. Roerig and Company	44
Ross Laboratories	69
Sanborn Company	49
Sandoz Pharmaceuticals	26
W. B. Saunders Company	11
Schering Corporation	9
G. D. Searle and Company	43
Smith, Kline & French Laboratories	23
Smith, Miller & Patch, Inc.	14
E. R. Squibb and Sons	64
Strasenburgh Laboratories	67
Tailby-Nason Company, Inc.	63
The Upjohn Company	20
U. S. Vitamin Corporation	8
VanPelt and Brown, Inc.	13
Walker Laboratories, Inc.	12
Warner-Chilcott Laboratories	41
Westwood Pharmaceuticals	32
White Laboratories, Inc.	47
The Williams & Wilkins Company	21
Winthrop Laboratories	1

President's Page

THIS IS YOUR BUSINESS

The individual physician can give a number of reasons why he does not attend business meetings of the Society. Foremost among these is the number of meetings he is expected to attend, which have increased greatly during the past decade. The Joint Commission on the Accreditation of Hospitals requires that members of the visiting staff of a hospital attend a certain number of formal meetings in addition to the time spent in the clinical instruction of members of the house staff. The purpose of the Joint Commission's requirements are most praiseworthy, even though some of us feel that, at times, their requirements have gone somewhat beyond what is reasonable and necessary to accomplish their aims. However this may be, none will deny that staff meetings are necessary for the proper consideration of both clinical and administrative problems in the hospital. In an effort to keep up with our rapidly increasing medical knowledge and the changing pattern of treatment, the conscientious physician must attend many meetings and lectures on medical science. If one chooses to so interpret it, these demands on the attending physician's time are penalties of progress.

In our Society the Active members number more than fourteen hundred. Of necessity, most of the work has to be carried on through committees. No standing or special committee may commit the Society to any set of principles or to any course of action. Each reports its conclusions and makes any recommendation to the Executive Board, which in turn reports to the Society. The reports, conclusions and recommendations of each committee, if adopted by the Society, may vitally affect each individual physician as well as the future of the practice of medicine. Even though the Executive Board reviews the reports of all committees, the ultimate decision rests with the membership. The Constitution and By-laws specifically provides: "Whenever a matter of general policy is involved," the question shall be decided by the Society as a whole.

Along with the scientific progress of medicine there is the increasing interest our fellow citizens are taking in medical affairs. It must be remembered that the Medical Society represents the physician in his dealings with the public, whether on a local, state, or national basis. To be properly represented, the physician must take part in the business of the Society. It is not enough that he be a well-regulated scientific machine, for many serious economic problems confront our modern society and the medical profession. Among these problems are the cost of medical care, adequate medical care for the low-income groups, better care for the aged, and adequate and better supervised nursing homes. The individual physician must help in finding a solution. The Medical Society has appropriate committees which have studied these and other problems; their recommendations have been submitted to and reviewed by the Executive Board. When these reports are brought before the Society for its consideration, a final decision in these important matters should not be made by a small minority.

W. LeRoy Dunn

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OF THE DISTRICT OF COLUMBIA

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Editorials

CRASH INJURY

Accident prevention is an important field of responsibility in preventive medicine. Within this field crash injury is properly the concern of the general practitioner and the surgeon, both of whom are already contributing effectively, especially in the prevention of crash injury in motor vehicles. Objective thinking and the considered judgment of the medical profession are needed in the solution of aviation crash injury problems, where considerable heat and emotion have been generated in discussion of the relative merits of protective restraining devices, i.e., seat belts, shoulder harnesses, and backward facing seats. The principles of crash protection, the extent to which the various types of restraints serve, and data on accident experience assist in developing sound medical conclusions and recommendations.

Protective measures are intended to increase the time during which the total energy of a crash is dissipated, and to reduce the pressure acting on one or more areas of the body. This can be explained quite simply. Recall the expression for Newton's second law of motion, Force = Mass × Acceleration; the force will be reduced if we can reduce acceleration. In order to increase the time for negative acceleration (deceleration), airplane passengers and crew must be restrained in their seats, so that they decelerate with the airplane throughout the period it is coming to rest, rather than be hurled against an instrument panel, bulkhead, or seatback, and stopped in a small fraction of a second after the initial impact of the airplane. By reducing the force we may reduce the pressure, i.e., the force per unit area.

Pressure can be reduced by distributing the crash force evenly, utilizing restraining devices having the largest possible area in contact with the body in the direction opposite to the force. If restraint is not complete and parts of the body move, any opposing surfaces with which it may come into contact should be free of projections, since these would greatly increase pressures at their point of impact. It is the pressure with deformation, piercing and destruction of soft tissues and bone that we seek to avoid.

Force and pressure are 2 essential objective criteria for comparative evaluation of restraining devices: 1. Seat belts serve partially to restrain the movement of the body in a crash, so that, in some degree, the body decelerates with the airplane. The head and trunk may be jackknifed forward to decelerate rapidly against a seatback or other opposing structure. The belt reduces the effective mass that is accelerated; i.e., parts, rather than the whole body, are hurled forward; this, as well as the energy dissipated in jackknifing the body, reduces the crash injury force. The pressure is reduced by distribution of the force over the same 30–45 sq. in. of the surface of the belt in contact with the body. If the area forward of the passenger is free of projections or protuberances and is constructed as an energy-absorbing device, the degree of crash protection is greatly increased. 2. The shoulder harness is superior to the seat belt on the basis of the 2 essential criteria. It restrains the body so that the full deceleration time of the airplane is utilized in reducing the force, and its area of contact is 2 to 3 times as great as that offered by the seat belt. 3. Backward-facing seats provide a large surface area opposing what is, in most instances, the major component of the crash force. Thus it reduces and distributes the crash force transmitted to the body. Further, the material used in construction of the seat may have energy-dissipating characteristics. Seat belts should be used with backward-facing seats; however, although the principal components of a crash force are forward and downward, these are usually accompanied by lateral and rotational components which may be great enough to accelerate the body. Where forward decelerative forces are very high, the passenger or pilot may slip out from under a safety belt or out from under the harness unless it is fitted with inguinal-type leg straps. Such an occurrence would be extremely unlikely in the case of a rearward-facing seat.

Theoretical considerations as well as practical experience provide evidence of the contribution of the safety belt to crash injury prevention in both automobiles and airplanes. So general is acceptance of seat belts in airplanes that there are little statistical data on non-users in aviation accidents. A Cornell Crash Injury Research study showed that only 39 out of a series of 1,039 survivors were not using belts at the time of the accident; the per cent of serious or critical head and body injuries of the nonbelt-users was twice as great as for the survivors using belts.[1] In spite of the demonstrated value of belts, their use has been repeatedly questioned by those who attribute serious abdominal injury to acute flexion of the body over the seat belt.[2] Further analysis of a widely discussed accident report presenting this viewpoint showed that all seats and seat-belt anchorages of the victims had broken, that there was a great predominance of fractures of the head and upper part of the body, and that the fewest injuries were in the region of the seat belt; DuBois[3] further states that among 800 survivors injuries (usually bruises) in the belt region were seen in only 32 and intra-abdominal injuries in only 23.

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[1] Aviation Crash Injury Research of the Flight Safety Foundation: Aircraft Safety Belts.

[2] Tease, D.: Brit. M. J., 1951, 2, 707.

Advocates of general use of shoulder harnesses and those recommending use of backward-facing seats have given wide publicity to reports of injury attributed to seat belts. This occurred as recently as June, 1959 in an editorial in *The Lancet*. Whenever this view is restated, many airline passengers and motor vehicle occupants become reluctant to fasten their seat belts, or if they do fasten them, they do so loosely.

The benefit of shoulder harnesses and of reverse seating in crash injury is also well supported by theoretical considerations, experimental studies, and accident experience. Evidence for the protection provided by shoulder harnesses has been largely developed by the research of the Air Force, particularly by Colonel John Stapp, USAF, and by the Navy, and by the experience of these services in military airplanes. Perhaps the most compelling study of the benefit of reverse seating has been accomplished by the British. Accident experience of 2 sets of 2-engine and 4-engine transport aircraft was compared. Rearward-facing seats were installed in 1 set of airplanes (both the 2- and 4-engine types), while forward-seating arrangements were employed in the other. Individual accidents were matched by severity in the 2 series by comparing the flight-deck casualty rates of the crews. Their accident experiences were closely comparable as to percentage of fatalities, serious and slight injuries, and no injuries of the crews. In severe crashes in which the airplane was destroyed, the percentage of passengers killed was 17 per cent in the 2-engine planes using reverse seating and 39 per cent in comparable planes with forward-facing seating; 73 per cent of the reverse-seated passengers were uninjured, whereas 47 per cent of the forward-facing passengers escaped injury. If only destroyed or substantially damaged aircraft accidents in the series are considered, the passenger casualty rates are 21.6 per cent for forward-facing seats as compared with 6.4 per cent for reverse seating.

While both theoretically and in practice shoulder harnesses and reverse seating afford greater protection than do seat belts, the very real benefit of the belts in crash injury protection should not be underestimated. Further, the likelihood of the seat belt per se being responsible for a fatal or serious accident is so small as to be statistically negligible. Shoulder harnesses will provide even greater protection and should be unequivocably recommended for pilots of private, commercial and transport planes, and for passengers in private planes who fly repeatedly and are well informed on aviation matters. Shoulder harnesses are, however, quite impractical for the air transport passenger. Reverse seating, with lap belts, holds promise for increased safety for the future, provided practicable engineering design solutions are developed to insure adequate strength of the seat and its attachment at a reasonable weight and there is public acceptance and demand for the greater crash injury protection afforded by this arrangement.

We should not, however, let thinking on crash injury protection be limited by present solutions, but rather should seek all possible means of exploiting the 2 essential principles—increased deceleration time, and reduction of pressure transmitted to the various areas of the body—and then consider the feasibility and public acceptance of the solution.

BARRY G. KING, PH.D.
Vice President, Life Sciences,
Operations Research Incorporated

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[3] DuBois, E. F.: Brit. M. J., 1952, 2, 685.

PUBLIC HEALTH CONCERN WITH IONIZING RADIATION

The fact that there may be potential danger from ionizing radiation has been understood for many years. As a result of the advent of the nuclear age the amount of ionizing radiation in man's environment has greatly increased and may pose a serious public health problem in the future unless steps are taken to formulate an enlightened public health control program.

All people are exposed to radiation in one form or another, and almost everyone experiences some exposure to X-rays at one time or another even if it is only from a routine chest examination.

Laws and regulations dealing with ionizing radiation are presently being enacted by various jurisdictions throughout the Nation. To date 43 states have enabling legislation dealing with this subject. Eleven states have promulgated detailed regulations. The use of fluoroscopic shoe-fitting machines has been eliminated in 19 states and the District of Columbia and regulated in 11 other states.

The Public Health Service has established networks for obtaining data on radiation in air, water and milk. That Agency as well as others is also engaged in a program to obtain data on radiation levels in foods.

There are 50 stations throughout the country participating in the water quality basic data network. This includes the waters of the Potomac River. The Seaboard States are very active in this program.

There are 136 stations in the air pollution network. One of these stations is operated in the District of Columbia by the Department of Public Health. Radiation levels are determined in an analysis of dust samples in addition to other constituents.

There is also a daily radiation Surveillance Network comprising 45 stations, including the one operated by the Department of Public Health in the District of Columbia. So far there are only 12 network stations sampling milk for radioactivity. The stations closest to the District of Columbia are New York, Atlanta and Cincinnati. The food program is not quite as advanced as some of the other programs, but a number of states are becoming quite interested in it. The State of Minnesota is one of those engaged in an intense program.

The means for controlling radiation hazards are well understood and can be readily applied. In order to keep man's exposure from all sources of radiation to as low a magnitude as possible, we must first find out where and what these sources are and then control such exposure to the best of our ability. The logical first step in such a program becomes the requirement for the registration of all installations where ionizing radiation sources are produced, used, operated, or stored. The information thus gathered can then be used to develop an effective control program without interfering in any way with the proper use of ionizing radiation in the healing arts and in industry.

Therefore, the Department of Public Health, after consultation with the Committee on Radiation Hazards and Safety of the Medical Society of the District of Columbia and other organizations, has prepared a set of proposed regulations which has been submitted to the Medical and Dental Societies for consideration, with the ultimate objective that the Commissioners of the District of Columbia promulgate regulations requiring registration of all installations which are sources of ionizing radiation.

Daniel L. Finucane, M.D.
Director of Public Health,
District of Columbia

CAUSE OF DEATH—PLASTIC BAG SUFFOCATION!

The recent death of a local infant due to plastic bag suffocation serves to tragically focalize the attention of the membership of our Society to a useless cause of death in children that has been reported in the press and medical publications around the country during the past year. As the number of deaths due to the misuse of these transparent cleaning bags continues to mount (about 70 deaths to date, several due to suicidal intent), the statistical significance of this etiologic agent of the Grim Reaper, surpassing poliomyelitis as a cause of death, becomes gravely apparent.

While the Society of the Plastics Industry, Inc. is to be congratulated on their million-dollar educational advertising program to warn the public of the hazards of the re-use and misuse of the plastic bags, it is probable that this program will do little to reduce the mortality rate—basically because those who die for this reason for the most part cannot read. The Plastics Industry would do well to investigate the feasibility of multiple perforations of large segments of these plastic bags to neutralize the suffocation aspects of the inherent electrostatic quality of this material.

Until some improvement of this deadly substance with its secondary "attractive nuisance" misuse feature is discovered and applied, large thin plastic bags, such as those supplied by cleaners and launderers, are best kept out of the house. For those parents with small children, a loaded gun in the home is probably no less dangerous an environmental hazard, and plastics kill just as effectively.

A simple telephone call to the cleaner or launderer requesting delivery without these adherent covers is the most effective "vaccine" to prevent this macabre event. There are other ways available to provide protection for clothes; the best protection for infants and children at this time is the elimination of the material from the home.

What a horrible way to die—so useless, so tragic, and so attendant by parental guilt overlay. What a sickening experience for the physician who has to file a death certificate in such a case, filling in the cause of death—"plastic bag suffocation."

F. G. B.

FAITH IN THE MEDICAL PROFESSION

A physician practicing in the greater metropolitan area of Washington, D. C. finds himself the member of a profession which is influenced by a number of circumstances not common to other communities. One of the most significant is the goldfish-bowl atmosphere of the Nation's Capital, the site of origin of numerous policies which shape the destinies of our people, and from which many organizations through their headquarters staffs speak for their constituents all over the Nation.

Peculiar to our own locale are the organization of medical interests into a closely knit unit and the fact that the Medical Society in the city of Washington operates as both a state and county medical society. Also unique is the coördination of medical interests in the counties in nearby Virginia and Maryland with the District of Columbia in the Medical Council of the Washington Metropolitan Area.

It goes without saying that most of the physicians in the Washington area are conscientious and honorable persons who will control any excesses in order to encourage public satisfaction with the private system of medicine. I am sure that this fact was in the minds of the Board of Directors of Medical Service when they expanded its program beyond the areas of surgery, obstetrics and related services in the hospital to provide numerous diagnostic services in the doctor's office. They, of course, recognized that in the former instance physician-controls are prescribed; in the latter, faith is of necessity substituted for written histories, tissue checks, and other measures which give reasonable assurance of a predictable expense for hospitalized patients.

The success of the Surgical-Medical Contract, with its broad base of benefits both in and out of the hospital, will depend then upon the extent to which physicians exercise control over the use of diagnostic services for their patients. There are undoubtedly a number of physicians who become so engrossed in the scientific problems involving their patients that they overlook the economic factors. Too much reliance can and not infrequently is placed on a battery of tests to exclude a variety of ailments which might be related to the patient's symptoms. The fact that the patient has insurance does not lessen the cost of such tests but simply spreads it among more people. The net result is that more voices are raised in protest against the rising costs of medical care.

More than 350,000 people in the Washington area are enrolled under the Surgical-Medical Contract of Medical Service of D. C. They are entitled to services which are of incalculable benefit to them at a reasonable cost. However, if too large a volume of questionable procedures are prescribed or demanded, the cost to the subscriber may conceivably become prohibitive.

It should be clear then that the ability of Medical Service of D. C., and perhaps Blue Shield Plans in many other areas, to provide benefits for diagnostic services out of the hospital will be dependent upon the good medical judgment of the doctors in prescribing tests for their patients.

James A. Dusbabek, M.D.
President, Medical Service of the District of Columbia

CORRESPONDENCE

Washington, D. C., August 19, 1959

To the Secretary:

The Summer Outings Committee of Family and Child Services wishes to express its thanks to you and the District of Columbia Medical Society for your help in soliciting doctors to give physical examinations to children departing for our two camps, Goodwill and Pleasant. It was through your efforts that camping was possible for 1,200 underprivileged children of the Washington area this summer.

Following is a list of the doctors who gave examinations to the children:

Dr. Robert A. Bier, Dr. Robert L. Simpson, Dr. Leo H. Mugmon, Dr. Harry N. Carlton, Dr. Willie L. Statom, Dr. Robert S. Randall, Dr. Samuel L. Bullock, Dr. Jesse A. Keene, Dr. Peter P. Andrews, Dr. Willard F. Jones, Dr. George W. Reeves, Dr. Guadalupe A. De la Rosa, of Howard University, Dr. Miguel A. Huici, Dr. John C. Oliver, Dr. Eileen F. Sweeney, of Georgetown University, Dr. Patsy A. Balsamo of Georgetown University, and Dr. Wellington Hung of Children's Hospital.

Thank you again for your assistance.

Sincerely,
George N. Greene, Jr.
Group Work Director, Family and Child Services of Washington, D. C.

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, September 14, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Victor L. Assevero, 5005 Illinois Avenue, N.W.
Martin B. Booth, 708 Decatur Place, N.E.
Delbert Pinkerton Johnson, 6415 31st Street, N.W.
John B. MacGregor, 5210 Hampden Lane, Bethesda, Md.

Associate Members

Joseph E. Bartkowski, 1534 16th Road N., Arlington, Va.
John H. Edgcomb, 3515 Idaho Ave., N.W.
Charles J. Everding, 4401 East-West Highway, Bethesda, Md.

In and Out of Focus

BY THE OBSERVER

The Cigarette Controversy It did not occur to the Editor that discontinuance of cigarette advertising, which was announced in the July issue, would be considered newsworthy by the local press. However, both the Washington *Star* and *The Washington Post* carried items announcing the decision.

As stated by the Editor, the matter had been taken up with the State Medical Journal Advertising Bureau, which provides the Society's journal with most of its national advertising. The Bureau advised the Editor that the MEDICAL ANNALS was not required to accept cigarette advertising; in fact, acceptance was optional.

It should be made clear that the conclusion to eliminate this advertising was not based on the controversy over the relationship of cigarette smoking to cancer of the lungs, but because advertising of a nonmedical nature has no place in a medical journal. Becoming involved in the current controversy, in the opinion of the Editor, could not be justified in the light of differences existing between physicians of unquestioned professional standing.

One cannot discount the fact that statistical evidence is on the side of those who are convinced that cigarette smoking is one of the causes of lung cancer. In the United States, an independent Study Group on Smoking and Health, composed of 7 scientists, organized in 1956, reviewed all the evidence before making a report. The group, which was sponsored by the National Cancer Institute, the National Heart Institute, the American Cancer Society, and the American Heart Association, concluded that: "The sum total of scientific evidence establishes beyond reasonable doubt that cigarette smoking is a causative factor in the rapidly increasing incidence of human epidermoid carcinoma of the lung."

So convinced was the British Government of the dangers of cigarette smoking following a report by the British Medical Research Council, it warned the public that "the most reasonable interpretation of all data is that the relationship between cigarettes and lung cancer 'is one of direct cause and effect.' "

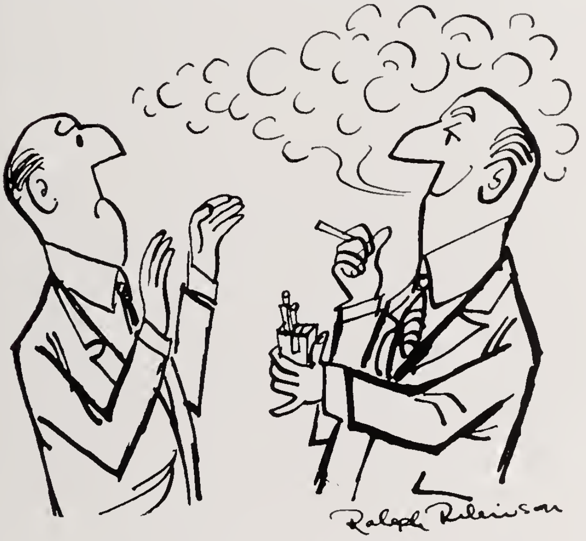
Dr. Leroy E. Burney, Surgeon General of the Public Health Service, stated in July, 1957, that "The Public Health Service feels the weight of the evidence is increasingly pointing in one direction: that excessive smoking is one of the causative factors in lung cancer."

The Service made a study of 200,000 veterans and found that cigarette smokers have an overall death rate 58 per cent greater than nonsmokers. The lung cancer death rate for regular cigarette smokers, it was pointed out, is 10 times the death rate for nonsmokers. The study further disclosed that the death rate among cigarette smokers rises with an increase in smoking.

One of the physicians whose letters appeared in the MEDICAL ANNALS protesting cigarette advertising stated that in view of this evidence he was "quite perturbed when [he] saw a reputable doctor, cigarette in hand, telling a patient with Buerger's disease that he should give up smoking." He went on to say, "While I know that many doctors smoke, I feel that the medical profession should not advertise any brand of cigarettes, tobacco or liquor."

At a regional meeting of the American College of Physicians, a panel of prominent, and smoking, oncologists were asked, "How do you reconcile your smoking cigarettes with your expert knowledge of the etiology of cancer?" To which the answer was: "We have now reached an age when the harm has been done. If we were going to develop cancer of the lung we already have it. Therefore, we might as well continue to smoke and enjoy ourselves."

Tobacco companies have not taken these findings lying down. They present some rather thought-provoking views by physicians in their publication, *Tobacco and Health*. A Scottish pathologist, Dr. T. W. Lees, of Law Hospital, Carluke, Scotland, a nonsmoker himself, is quoted as having said that "smoking may not be a factor in cancer; no one can say that until the cause of cancer is known." He is also reported to have made the statement: "After [a] study of the relation between smoking and lung cancer, we can find nothing to suggest that smoking is more intimately concerned with lung cancer than the increase of banana eating, cinema going or what you will in the last 50 years."



"Patients don't take my advice—why should I?"

Of particular interest to American physicians are the views expressed by Dr. W. W. Bauer, Director of Health Education, American Medical Association, in his column, "Health for Today." Dr. Bauer, more restrained than Dr. Lees, says:

> "No one questions the honesty of the figures nor does anyone dispute the facts. It is when we come to the question of cause and effect that divergences of opinion begin to show whether the statistical association is or is not significant.
>
> "Statistics are a tricky business as indicated by the laconical remark that 'figures don't lie, but liars may figure.' It is not necessarily liars who figure either. Honest men may figure and be seriously deceived.
>
> "I have seen statistics which placed in parallel columns the increase in cancer and the increase in miles traveled by automobile. At the time I saw those figures they looked perfectly ridiculous. How could there be a connection between cancer and the road mileage of motor cars? Today we are not so sure that motor exhaust is not among the possible causes of lung cancer.
>
> "On the other hand, I have seen columns of figures showing the increase in cancer over a period of years in parallel with the transition from ice refrigerators to electric refrigeration of today."

Dr. Bauer's conclusion:

> "The cause of lung cancer remains unidentified. Cigarettes, motor exhaust, other air contaminants, constitutional factors in the individual, and perhaps as yet unrecognized influences must not be overlooked. The problem is not as simple as statistical comparisons may indicate."

Dr. Bauer adds that he is a nonsmoker and has no stock in any industry related to tobacco.

Again, the Editor of the MEDICAL ANNALS has no desire to become involved in this controversy where cigarette advertising is concerned. He wishes to reëmphasize that his decision to eliminate cigarette advertising was based solely on the propriety of a medical journal accepting advertising which has no relationship to medicine. Perhaps this decision was overdue, but better late than never.

The Physician and the Market Economy

Critics of organized medicine like to picture the AMA as a hierarchy where a few leaders decide the course which the Association relentlessly pursues. Their goal, they say, is to maintain the status quo, especially where financial relationships between physicians and patients are concerned; what is most important is to satisfy the demands of money-hungry doctors.

What these critics usually have in mind when they speak of the "hierarchy" is the AMA's Board of Trustees. It is true that the Board is a powerful body and speaks with considerable authority for the Association between sessions of its House of Delegates. But where broad policies are concerned the House has the last word. As in all democratic bodies, decisions with respect to policy are decided by a majority of the delegates.

Within the House there is every shade of opinion. There are the very few who count among their supporters those who favor the enactment of compulsory health insurance legislation. There are others who oppose it but think it is inevitable. There is a far larger group that favors the status quo in medicine except where methods of spreading costs of medical care are concerned. In other words, this group favors voluntary health insurance, usually as exemplified by Blue Shield Plans. There are those on the extreme right who want no change whatsoever. There are the middle-of-the-roaders and the independents who may veer either one way or the other but are usually on the conservative side.

In view of the conflicting views of members of the House it is surprising how consistent they are in their actions, which might be described as slightly right of center. Recently there seems to have been a not too pronounced trend in the other direction.

What prompted these observations was a reprint of an address which came to your Observer's desk, entitled, " 'Third Party' Interference, the Practice of Medicine and the Market Economy," by Dr. James L. Doenges, Past President of the Association of American Physicians and Surgeons. Dr. Doenges, an eloquent spokesman for the ultraconservative element in the profession, has no stomach for "third parties" whatever their label. Admittedly, he offers some cogent arguments for his point of view, but basically he is far removed from the thinkng of many physicians who consider themselves realists.

Few physicians, whatever their thinking in regard to "third parties," will disagree with the following:

> "Some believe, quite erroneously, that the interest, influence and control of the 'third party' can be restricted to the payment of fees. The informed know this is impossible. Regardless, the entrance of a 'third party' into the practice of medicine has produced the most serious problem the medical profession must face today. We must face and solve that problem now!"

However, such a statement as this is quite another matter: "Highest quality medical care cannot survive under any system in which there is 'third party' interference."

The AMA's House of Delegates last June made it clear that it disagreed with this view when it adopted the recommendations of the Commission on Medical Care Plans with respect to "free choice." (See In and Out of Focus: "A Courageous Leader," September, 1959.)

As previously stated, Dr. Doenges does not differentiate between "third parties." They all look alike to him.

> "All are acquainted with the numerous difficulties and objections reported regarding the operation of 'third party' National Health Insurance schemes, such as the 'red tape'; the innumerable forms which require more time than the patient receives; the sky-rocketing costs with the associated tax increases; the increasing demands for nonessential services and supplies; the abuses which defy elimination; the ever-increasing waiting lists for hospital admissions; the unreasonable delays in every area; the decreasing hospital services; the dissatisfaction among patients, hospital personnel, and physicians; as well as the wasteful operation and other evils to which every bureaucracy is heir. Bureaucratic systems are not confined to governmental agencies. They can and do exist in most businesses, labor unions, and some medical organizations.
>
> "These facts alone provide sufficient concrete reasons why government and other 'third party' 'health programs' via 'insurance' or 'service' plans historically result in less satisfactory and inferior quality medical care."

At the close of this address, Dr. Doenges reemphasizes his opposition to all third parties.

> "Every statement which has been made [in regard to the third party] applies with equal force and validity to all governmental units, every labor union plan, and all insurance programs. It applies equally to private, profit-making, tax-paying insurance companies as well as so-called 'not for profit' mutual companies! Unpleasant as it may be, the facts must be applied in evaluating

> even the so-called 'Doctors Plan'—for control is control, regardless of who exercises it!"

In other parts of his address, which for lack of space cannot be quoted here, he emphasizes that all third party programs are dishonest; that they encourage the patient to lose his sense of responsibility to the physician for the cost of his services. He pleads for a free market economy. On this score, he says:

> "In the market economy, the physician must be free to state his own true estimate of the value of his services. The patient must be free to accept this value, persuade the physician to change it, or seek the services of someone else. Whenever this arrangement is eliminated the free market is destroyed in that area and is weakened in every other area."

As has been stated, many physicians will agree in part with Dr. Doenges' views but will find them basically unrealistic. The facts are, they say, that the "third parties" in medicine are not only here to stay but they will increase and expand. Any attempt to stay their progress is not only futile but unwise. What the present situation calls for is sound medical leadership to make certain that medical practice is not put in a strait jacket under a compulsory system in which patients as well as physicians will suffer.

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British GP's Status Grave

Physicians who have visited England recently have reported the sad plight of the general practitioner. Specialists, they say, are much better off.

This situation has been of growing concern to the Ministry of Health and the British Medical Association which are endeavoring to find ways to arrest the decline of the general practitioner. The B.M.A. has warned that the future of the family doctor is dismal "unless he can keep up materially with the Jones's of the other professions and in industry and commerce."

Dr. Bruce Cardew, General Secretary of the Medical Practitioners' Union and a member of the B.M.A. Council, states:

"Unless positive action is taken . . . there is a grave danger that the family doctor as we know and value him may disappear." Too many doctors, he says, are forced to lower their clinical standards because "they are ill-equipped or short of time to practice good medicine."

"If general practitioners had fewer patients to look after, were better housed, better organized and in closer touch with other health and welfare agencies, patients could expect to receive more attention, the hospital would be relieved of much work, and there would be less sickness benefits paid out of the National Insurance funds."

Dr. Cardew urges the establishment of group practice centers manned by area physicians. Such centers, he says, would provide doctors associated with them an opportunity to train students and inexperienced qualified doctors. District nurses and social workers, it is proposed, would be based in the centers. The maximum list of 3,500 patients, Dr. Cadrew says, should be reduced over three years to 3,000 and then to 2,750. This would be expensive, he admits, but "good medicine cannot be bought cheaply."

In an editorial, "The Family Doctor," the London *Daily Telegraph* inquires:

> "Have the back-room boys of Socialism realized that bureaucracy is inadequate to regulate a social relationship which is essentially human and individual? And will they go on to help in removing from the public mind the illusion that the family doctor is a State-paid automaton, a kind of no-penny-in-the-slot machine mass-produced for the purpose of keeping them in health from the cradle to the grave? . . .
>
> "The family doctor is, of course, the key to the proper functioning of the National Health Service, yet of all the competitors for the Ministry's encouragement and benevolence—including hospitals and specialists—he has had the rawest deal."

Both the above news item and editorial were sent to the Editor with a covering letter by Dr. John P. Adams, Washington orthopedist, who recently visited England. He was one of 5 Exchange Traveling Fellows from the American and Canadian Orthopedic Associations to the British Orthopaedic Association. In his communication, Dr. Adams made the following observations:

> "Our contact with the general practitioner was limited but what we heard fit in with the facts mentioned [in the above items]. We found a lot of the specialists—at least, the orthopaedic specialists—not to be unlike ours and most of them seemed to approve of the present national health system. As one of the leading men put it, 'I am fifty-one per cent for it and forty-nine per cent against it.' However, the specialists and the general practitioner have entirely different pay systems—the former is paid on the basis of his appointment and the latter, on the volume of his panel."

It is to be hoped that the anticipated action of the Royal Commission increasing the general practitioners' remuneration will not be too long delayed. Equally important, that the reorganization of the National Health Service, which it appears is also in the cards, will improve his professional status materially.

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Physicians' Signs

Not infrequently the Secretary of the Medical Society or one of his assistants receives a telephone call from a physician requesting specifications for a doctor's sign. In seeking this information he states he is most anxious to conform to ethical requirements.

It is explained to him that no specifications have been adopted by the Society and that he must rely on his own judgment, good taste, and the customs in the community. Obviously, a flamboyant sign attracting undue attention is not only unethical but is harmful to his relations with the public and other physicians. His next question is usually whether his specialty should appear on the sign. Here, too, he is told that he must exercise his best judgment. For example, if he is engaged in a specialty and his office is in an outlying neighborhood rather than in the downtown area, he may wish, and properly so, to indicate that he is not engaged in general practice.

All in all, this matter has not been thought of sufficient moment in the District of Columbia to warrant the Society's promulgating formal rules with respect to signs. This apparently is not the case in Chicago, where a policy adopted by the Chicago Medical Society has been in effect for some time. It is described in a pamphlet entitled, "A Medical Viewpoint Concerning Signs," which has been circulated among that organization's membership.

The pamphlet states that the physician must be guided by "two cardinal principles" where signs are concerned:

"A. [The exercise of] sufficient good taste and good judgment . . . so that the ideals of the profession will be maintained.

"B. [The observance of] local custom and practices of the profession."

Signs are classified as follows: Class A—those that are "controlled and paid for by the doctor." Class B—those that are paid for by lay-dominated organizations or institutions "which exist by reason of the professional efforts of one or more physicians." Included in this category are clinics, hospitals, institutions, office buildings, and medical arts buildings.

The following "usages and recommendations," it is stated, are of an advisory nature:

> "1. IDENTIFICATION SIGNS—A sign designed for this purpose or to indicate direction as to the location of a physician should confine itself in size, location and type of sign to accomplish this purpose and no other. It should bear the organization or physician's name, his degree or their function, and be large enough to be legible at the distance usually traversed by the public. Letters 4 inches high at 20 feet distance might be considered acceptable, whereas 10 or 12 inches might be required for legibility 100 feet away. Both Class A and Class B signs can conform to this regulation.
>
> "2. ADVERTISING SIGNS—Signs of this type cannot be approved for either Class A or Class B since this is recognized as the solicitation of patients and is considered unethical whether done by a physician, groups of physicians, institutions or organizations. This principle protects the public by establishing an easily discernible and generally recognized distinction between the ethical physician who lets his good work speak for him and those who purchase praise and laudation. Recognition of this principle permits us to go further and point out that groups of physicians, hospitals, clinics,

and like institutions which endeavor to care for a greater number of the public during the same period may well require a larger sign so that the larger number of people may be properly directed. Even with this need established it is still possible to determine whether a given sign is blatantly soliciting patients or whether it is informational for the public. . . .

"3. TYPE OF SIGN—

(a) Illuminated and Nonilluminated Signs—If either the Class A or Class B group continue their accustomed service to the public during the hours of darkness, illuminated signs, not objectionable in other aspects, may be approved.

(b) Colored Lights, Neon and/or Flashing Signs—These cannot be approved for either Class A or Class B.

(c) Projecting Signs Versus Wall or Building Signs—In general usage wall or building signs provide sufficient identification and are preferred to projecting signs.

(d) Signs Indicating Supplemental Services or Materials—If signs of this character indicate that the occupants concerned with the operation are purveying instruments, drugs, applicances or devices as an added profit motive in addition to their professional services, Class A signs will be disapproved. Such signs falling in the Class B group will not be considered acceptable to the profession.

(e) Signs Emphasizing Sects or Cults—Such signs do not exalt the standards of the profession. As such they are not approved for Class A signs and are not acceptable in the Class B group.

(f) Signs Directing Attention to the Use of Particular Diagnostic or Therapeutic Methods Such as X-ray and Like Apparatus—Except in cases where the professional work carried on at the indicated location is done by regular laboratories as a specialized activity, the use of such signs shall be interpreted as the solicitation of patients by use of certain means not available to all physicians. Such advertising suggests the use of extraordinary skill or procedure and is unethical. Signs of this character are not approved for Class A signs and are not acceptable in the Class B group."

The physician's attention is called to "an earlier principle" adopted by the Chicago Society's Public Relations Committee:

"A physician's obligation to the profession to which he belongs is not lessened nor diminished when that physician associates himself with an organization, group or corporation whose activities bear a medical relationship to the public. Thus a physician's adherence to the ideals of his profession transcends his duty to any such organization, group or corporation whether said group is engaged in an active phase of medical practice, the promotion of educational activities, or any corporate or governmental operation wherein medical training is a prerequisite."

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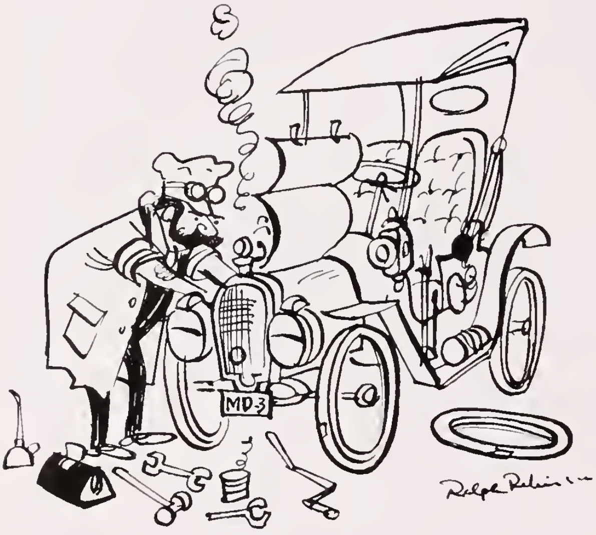
First Auto Test Drivers

A letter appraising the merits of the "horseless carriage," which the late Dr. Charles H. Mayo addressed to the Editor of *The Journal of the American Medical Association* in 1901, aroused much interest among his contemporaries. It seems that Dr. Mayo and his brother, Dr. William J. Mayo, owned a "steam buggy." "Dr. Charlie," who had operated both gasoline-driven and electrically propelled machines as well as "steamers," expounded in his letter on their virtues and shortcomings. His appraisal of the future of these vehicles was surprisingly accurate. "Steam," he said, "is the most sure power, yet the rapid advancement of gasoline engines will undoubtedly make them the most convenient in another year."

"In the seven years to follow" [the publication of Dr. Mayo's letter] John A. Mirt wrote in *The Illinois Medical Journal* for November, 1957, "the family doctor collectively was to become the test driver for the automobile industry, then in its infancy and subject to growing pains and the ills of improper nutrition." Manufacturers, Mr. Mirt said, were only too aware that there could be no better testimonial for their "machines" than the satisfaction of the family doctor who used them on calls to his patients. Naturally, they were elated at the rapidity with which physicians were switching from the horse and buggy to automobiles.

Mr. Mirt reports that doctors in the early day of the "gas buggy" were good mechanics, perhaps because circumstances forced them to be. Repair shops were few and far between. Parts and designs were not standardized as they are now, so it was a case of "get out and get under with the aid of a few choice nonmedical words."

In response to the demands of its subscribers, the J.A.M.A. reported quite regularly experiences of physicians with the automobile. *The Journal* for March 24, 1906, observed: "To no one class of people is the automobile of more practical importance as a business proposition than to physicians." Thirty-six pages in *The Journal* for April 21, 1906, were devoted to communications from 68 physicians, many of them giving advice as to how to maintain automobiles in first-class operation.



"... * * * ! ! !"

Some of their comments, as related by Mr. Mirt, are enlightening:

> "Solid tires worked best on mud roads. . . . The pneumatic tire was 'too wide to go into the rut made by wagon wheels.' "
>
> "The physician has to be an auto mechanic as well as a medical man."
>
> "Learn to diagnose your trouble when it arises. Understand the physiology of your engine. Apply the treatment as when you prescribe drugs in your daily practice."
>
> "The traumatism of the conjunctiva in motoring is very severe and one should always wear goggles."
>
> "I will never buy another [automobile]." [OBSERVER'S NOTE: He did!]

By 1907 physicians throughout the country were asking for more information about automobiles. As a result, another special number of *The Journal* (March 7, 1908), with illustrations showing physicians' cars operating over country roads, pushing through snow drifts, and negotiating rocky roads, made its appearance.

At the American Medical Association's meeting in Chicago in June 1908, 5 automobile-makers displayed their products. Buick and Cadillac were labeled "physicians' cars."

On March 6, 1909, a third 34-page automobile edition of *The Journal* was published.

With the advent of the Indianapolis Speedway in 1911, an era came to a close. Physicians as test-drivers were succeeded by professionals. However, they had made a very important contribution in the early days of the automobile.

Your Observer's recollections of automobiles in the early 1900's is fragmentary. He does have a vivid recollection of the first Model T Ford and the period antedating the modern highway. In the 1920's in Wisconsin, where he then lived, there were very few paved highways. First-class roads were gravel. Dirt roads were not uncommon. That was pretty much the story everywhere. The automobile and the highways have come a long way since the Model T and horse-and-buggy roads.

Today the physician knows little about the mechanics of his automobile. He doesn't need to because it is no longer the uncertain mechanism it once was. Mechanical breakdowns of well-conditioned automobiles are comparatively rare. From an operational standpoint they have become largely automatic. Like other people, physicians are primarily interested in body style, gadgets and power.

What will the automobile be like in the year 2000? One can be certain that 1959 models will be as antique as the Model T is now. It may well be that the automobile will have passed from the scene and other means of transportation developed.

The subject of these comments was suggested by an exhibit prepared by Dr. Harold M. Camp, of Monmouth, Illinois, and Dr. Theodore R. Van Dellen, of Chicago, which was presented at the last annual meeting of the American Medical Association held in Atlantic City in June. The exhibit, which was inspired by Mr. Mirt's article, deservedly attracted much attention, especially among history-minded physicians.

T. W.

Annual Reports

REPORT OF THE CHAIRMAN OF THE EXECUTIVE BOARD

It will be recalled that at a Special Business Meeting on June 24, 1959, the Society adopted a revised Workmen's Compensation Fee Schedule, submitted by the Committee on Industrial Health, and the Relative Value Scale, prepared under the direction of the Committee on Medical Care. The latter was approved "with the understanding that such modifications as are indicated will be made from time to time under the direction of the Committee."

Adoption of the Scale marked a milestone in the Society's efforts to develop a guide for physicians where their fees are concerned and to provide a basis for negotiations with various groups, including Medical Service of the District of Columbia, insurance companies, and labor unions, in an effort to establish mutually satisfactory fee schedules.

Although our Society was not the first to adopt the Relative Value Scale, having been preceded by California, Arkansas, Iowa, Kansas, Maine, Montana and Nebraska, it is still among the pioneers. As a result, requests for copies of the Scale have been received from individual physicians and medical organizations throughout the country. Interestingly, some of these have come from the states where Relative Value Scales have been in effect for a year or more.

This report concerns itself largely with matters of policy dealt with by the Executive Board since the last Annual Business Meeting.

Postgraduate Education

Early in 1959 the President of the Society recommended to the Board that the Committee on Postgraduate Education, which had been dropped from the roster of committees some years before, be revived. He informed the Board of a conference which had been held with the deans of the District's medical schools at which it was agreed it would be in the interest of all concerned if all educational programs for practicing physicians were coördinated so as to avoid duplication of subject matter and conflict in dates. This, the group thought, could be effected by the creation of a committee in which all parties present would have equal representation.

After some discussion it was decided to recommend to the Executive Board that each of the 3 medical schools and the Society appoint 2 members to a committee to develop a coördinated and long-range program. The President recommended, however, that the revived Committee on Postgraduate Education, on which there would be the above representation, be assigned this task. The Board unanimously concurred.

Since it began to function the Committee has held 2 meetings. At its first meeting it decided to conduct a survey of Society members to determine: (1) what subjects were desired for postgraduate training; (2) what days in the week and hours were preferred by most physicians; and (3) the physicians' preferences as to how long the course should run. The response to the questionnaire was sufficient to provide the Committee with a lead as to the wishes of the membership.

Among the projects decided upon by the Committee was a postgraduate course in basic sciences, the first lecture to be given on the second Wednesday in October 1959, and the succeeding lectures to be presented weekly thereafter, to conclude with the 28th Annual Scientific Assembly, which will be held on November 23, 24 and 25, 1959. Subsequently, the proposed course was abandoned because it was learned that the dates would conflict with courses long planned by various District hospitals. Other plans were also held in abeyance until the Committee could learn more about the situation.

At its last meeting, the Committee voted to invite hospitals to coöperate with the Society and medical schools in trying to effect a coördinated program. Each hospital was extended an invitation to designate a representative to serve on the Committee and to be present at a meeting held on September 10. The purpose, it was explained, was to develop a long-range program in which hospitals as well as medical schools would coöperate. The response has been most satisfactory.

The Board heartily approves of these efforts to bring order out of a chaotic situation. It is confident that a solution will be found by the present Committee on Postgraduate Education.

REHABILITATION PROJECT

The study undertaken by the Society's Council on Rehabilitation in 1955 will have been completed on September 30, 1959. The original expiration date of the project, which was underwritten by the Office of Vocational Rehabilitation, Department of Health, Education, and Welfare, was June 30, 1959. Upon request of the Council, the project was extended by OVR for an additional 3 months so that the study could be completed.

The first step in its investigation, which, incidentally, was a pioneer venture where medical societies are concerned, was to make an inventory of services provided the handicapped and disabled by public and private agencies in the Washington Metropolitan Area. This was followed by a survey of physicians in the area to determine their experiences in planning for and securing services for handicapped patients. The survey thus provided a list of the practicing physicians interested in rehabilitation and their awareness and use of existing rehabilitation resources in the area.

At a meeting of the Executive Board on March 23, 1959, the Council submitted a proposal that the needs already demonstrated by the study be implemented and that a pilot program be undertaken under the general sponsorship of the Society in coöperation with other medical societies in the Metropolitan Area. The Council stated the program would "provide a reservoir of professional talent to which health as well as nonmedical agencies could turn for review and evaluation, advice and counsel on the medical aspects of their programs, and which would serve both as a forum and a central source of health information in the areas of the handicapped, the aging and the chronically ill."

As to funds required, the Council proposed that application be made to the Eugene and Agnes Meyer Foundation for a grant to further its activities. The Board approved the Council's proposal subject to favorable action by the Society. Subsequently, because the procedure decided upon in connection with this application was in conflict with the Constitution and By-laws, the Board rescinded its action. It voted to recommend to the Council on Rehabilitation that it explore methods by which a separate organization to implement its findings be established.

The Board will keep the Society posted as to what transpires in connection with this project.

AGING PROBLEM

Medical societies throughout the country are currently directing their attention to the problems of the aging. The Society's Committee on Aging was established last year and has been very active ever since.

Its first task was to inform itself as to the situation which exists not only in the District of Columbia but elsewhere. In an effort to obtain the necessary information, the Chairman participated in several conferences, national and local, and from time to time relayed what he had learned to his committee.

One of the recommendations submitted by the Committee on Aging to the Executive Board was that a central information service be established in the District of Columbia which would provide information to physicians and the public about facilities in the District for care of the aging. Action on this proposal was withheld pending the success of the Council on Rehabilitation in obtaining a grant to implement its recommendation. If funds are made available to the Council the functions of the center would become a part of its program.

Early in the year, the District Commissioners created a Council on Aging. The Chairman of the Society's Committee was made the Council's Chairman, with several other members of the Society appointed to serve with him.

As members were informed a year ago, the Executive Board suggested to the Board of Trustees of Medical Service of the District of Columbia that immediate efforts be made to develop a program for the low-income group which would embrace the dependent aged. The Society's Board has not been informed as to the present status of this proposal.

HEALTH LEGISLATION

On recommendation of the Committee on Public Policy, a query was directed to Dr. Daniel L. Finucane, Secretary of the Commission on Licensure for the District of Columbia, in regard to nonlicensed physicians practicing in the District hospitals on the basis of borderline registration. Dr.

Finucane replied that the Commission could take no action in the matter because recognition of borderline permits by hospitals was permitted under District laws. The matter was then referred to the Hospital Council of the National Capital Area for its opinion. Their position was somewhat similar to that of the Commission.

Dr. Finucane states that an amendment to the law will be required if licensure is to be a requirement to practice medicine in District hospitals by physicians situated in adjacent areas in Virginia and Maryland who are licensed in their respective states.

Support was given a bill (S. 1870) providing for the examination, licensure, registration and regulation of professional and practical nurses in the District of Columbia. Similar legislation had been introduced in the last Congress making licensing of practical nurses mandatory. This was not true of the current bill. Following conferences with representatives of the Graduate Nurses Association and practical nursing schools in the District, it was decided to support permissive legislation.

Support was also given the American Medical Association's opposition to the so-called Forand Bill (H. R. 4700), which would amend the Social Security Act by providing protection against the costs of hospital, nursing home, and surgical services for persons eligible for Old Age and Survivors Insurance benefits and for other purposes.

In a letter addressed to the Honorable Leo H. Irwin, Chief Counsel, Ways and Means Committee, House of Representatives, Dr. W. LeRoy Dunn, the President of the Society, stated that while the Board supported the Association's opposition, it was "conscious of the urgent need for an adequate medical care program for the aging population."

Elaborating upon the latter point, Dr. Dunn said, "The Board is encouraged by the progress now being made by Blue Shield Plans and commercial insurance companies which are providing greater protection against medical care costs for the aged at reduced rates. However, the cost of physicians' services is only one facet of the problem, the most serious being that of the costs of hospitalization and nursing home care.

"Nonprofit voluntary prepayment hospitalization plans such as Blue Cross cannot reduce rates to subscribers unless there is a corresponding lowering of rates by hospitals. The hospitals, on the other hand, must maintain their present rates and perhaps increase them if they are to remain solvent. Obviously, there is no easy answer to this problem. The Board, however, does not believe the Forand Bill to be the best solution. It is of the opinion that voluntary methods, even if supplementary funds are required, should be given a fair trial before the Government assumes the responsibility."

ECONOMIC PROBLEMS

The anticipated hearings on medical costs in the District of Columbia by a subcommittee of the Senate District Committee, of which Senator Wayne Morse is Chairman, had not been held at the time this report was prepared. That hearings will be held during this session seems doubtful.

From what the Society has been able to learn, the areas to be considered by the subcommittee are these:

1. Group Hospitalization, Inc., with specific reference to its rates and reserves.
2. Hospital costs including administrative costs, etc.
3. Relationship of the costs of ancillary services to hospitals, i.e., departments of radiology, anesthesia, and pathology.
4. Resident-intern training, to determine the cost of their training and whether it is passed on to patients.
5. Nursing education and its costs, and if any part of costs is passed on to patients.

As previously reported in the MEDICAL ANNALS (see Report of the Delegates to the AMA in the August issue of the ANNALS, page 460), one of the controversial reports considered by the American Medical Association's House of Delegates was that of the Commission on Medical Care Plans. Criticism was directed by some delegates particularly toward the Commission's attitude on "free choice."

In anticipation of the debate on this subject, Dr. F. J. L. Blasingame, Executive Vice President of the AMA, addressed all constituent associations under date of January 20, 1959, inquiring their views with respect to the following:

"1. *Free Choice of Physician.* Acknowledging the importance of free choice of physician, is this concept to be considered as a fundamental principle incontrovertible, unalterable and essential to good medical care without qualification?

"2. *Closed Panel System.* What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician?"

The Executive Board referred the above query to the Committee on Medical Care for its views. The Committee was of the opinion that "the principle of free choice is fundamental; however, it recognizes that there are certain praiseworthy exceptions." In reply to the second question, the Committee favored a "tolerant attitude toward the participation of physicians in systems of medical practice restricting free choice providing high quality of service is maintained."

The Board concurred in the Committee's stand. Dr. Blasingame was notified to this effect.

PROPOSED AMENDMENT

The Board submits for approval by the Society the following amendment to the Constitution and By-laws:

AMENDMENT I

Chapter X, Article II, of the Constitution and By-laws is hereby amended to add thereto the following:

Section 13. Plastic Surgery
Section 14. Allergy
Section 15. Physical Medicine and Rehabilitation

Applications in the proper form were filed with the Board for the establishment of the above Sections.

HONORARY MEMBERSHIPS PROPOSED

The Board is pleased to present the following nominees for Honorary membership in the Society:

The Honorable Lister Hill. Senator Hill, of Alabama, is well known to Washington physicians. On April 29 he was honored by Government officials, medical and business leaders in the Nation's capital and presented with the first "Health—U.S.A." award (see July issue of MEDICAL ANNALS, pages 402–4).

Lieutenant General Leonard D. Heaton, M.C., U.S.A. General Heaton was appointed Surgeon General of the Army by President Eisenhower and confirmed by the Senate on April 25, 1959. He had been Commanding General at Walter Reed Army Medical Center since April 1, 1953, succeeding Major General Silas B. Hays.

He was commissioned as First Lieutenant in the Medical Corps in 1927, a year following his graduation in medicine from the University of Louisville. He was first assigned to duty at Walter Reed in 1928, when he attended the Army Medical School.

During World War II General Heaton served at Woodrow Wilson General Hospital in Staunton, Virginia. Subsequently he was Commander of the 160th General Hospital. He went overseas with the 802nd Hospital Center. In 1945 he became Chief of Surgical Service at Letterman Army Hospital and Commanding General of the Hospital in 1950.

To add to his decorations for war service, the Secretary of the Army presented him with the Distinguished Service Medal in 1957 for a series of nationally important surgical operations, including those performed on President Eisenhower and Secretary of State John Foster Dulles.

Major General Oliver K. Niess, M.C., U.S.A.F. General Niess was appointed Surgeon General of the United States Air Force by President Eisenhower to succeed Major General Dan C. Ogle. He took office on December 1, 1958.

General Niess is a native of Belleville, Illinois. He graduated from Washington University School of Medicine in St. Louis, Missouri, in 1927. Following his internship at Fitzsimons General Hospital in Denver, Colorado, he was assigned to the Philippine Department, Ft. McKinley, Philippine Islands.

During World War II General Niess held many assignments, including that of Director of Administration in the Office of Air Surgeon, Washington; Surgeon of the India-China Division, Air Transport Command, Calcutta, India; and Surgeon of the Pacific Division, Air Transport Command, Hawaii.

In 1950 he was appointed Air Force member on the Armed Forces Policy Council, Office of Secretary of Defense. His post at the time of his appointment was Command Surgeon of Pacific Air Forces, Hawaii, a position he had held since 1954.

General Niess is certified by the American Board of Aviation Medicine and is rated as Chief Flight Surgeon and as Air Craft Observer (Medical). He is a fellow of the American College of Surgeons, a member of the American Medical Association, Aero Medical Association, and the Association of Military Surgeons.

The Board recommends election of Senator Hill and Generals Heaton and Niess as Honorary members of the Society.

Finances

The Constitution and By-laws provides that the Chairman of the Executive Board not only report to the Society on matters other than routine considered by the Board during the preceding year, but that he submit the budget for the ensuing year. An estimated budget recommended for adoption will be sent to the membership before the Annual Business Meeting.

Expenditures of the Society are reviewed monthly by the Finance Committee of the Board, which submits a quarterly statement prepared by the Treasurer showing the income and expenditures as compared with the budget.

Financial records of the Society are audited by Wayne Kendrick and Co., Washington, D. C. The audit takes place immediately after the close of each calendar year. A condensed financial statement prepared by the auditors will appear in the February or March issue of the Medical Annals.

Miscellaneous

As has been previously announced in the Medical Annals, the Clinical Session of the American Medical Association will be held in Washington, D. C., in December, 1960. Dr. Donald Stubbs has been appointed General Chairman of the local Committee on Arrangements. He and the committees serving under him will become active early in the fall of this year. . . . Upon the suggestion of Dr. Stanley J. Talpers, an Active member of the Society, the Executive Board created a Committee for Medical Journal Exchange for Underdeveloped Countries. Much favorable comment has been made on this project. Early in its existence the Committee canvassed physicians in the District with the view of their agreeing to provide individual medical men in underdeveloped countries with current medical publications. Dr. Talpers reports that the response has far exceeded his expectations. . . . Members of the Society have from time to time suggested that efforts be made to have numbers on District automobile license plates supplied physicians prefixed by the letters "MD." On at least two occasions requests to this effect were forwarded to the District Commissioners, who, for one reason or another, were not favorably inclined to the proposal. However, the Society was recently informed that its request will be granted on the condition that a sufficient number of physicians wish "MD" tags and the Society be responsible for the collection of fees for license plates. A survey of the membership disclosed a large number wanted "MD" plates assigned them. As a result they will be made available to those requesting them in 1960. . . . In response to the letter received from Senator Hubert H. Humphrey, Chairman of the Senate Subcommittee on Reorganization and International Organization, the Board authorized the Secretary to inform him that the Society would be pleased to coöperate with the study being undertaken by the Subcommittee. In addition it approved the names of physicians who would give expert advice to the Senator. Letters exchanged by Senator Humphrey and the Secretary were printed in the June issue of the Medical Annals (page 350).

The Society's contract with the Office of Dependents Medical Care was renewed on August 1, 1959, for the period ending July 31, 1960. As previously reported, services authorized under the contract are much restricted over the agreement originally in effect. . . . Proposed regulations providing for the registration of all radiation sources in the District of Columbia were submitted to the Executive Board with the recommendation of the Section on Radiology that they be approved. The Board gave its approval. Following approval by other organizations these regulations will be published in the Medical Annals.

This concludes your Chairman's report, which, as stated in the beginning, is limited to the more important matters of current interest dealt with by the Executive Board. Those desiring further details should get in touch with the Secretary of the Society, who will be glad to furnish the information desired.

It has been a high privilege for me to have served as your President, as a member of the Executive Board, and, in the past year, as its Chairman. Your confidence has been a very vital and exhilarating experience in my life. My interest in the Society and the profession's problems will in no sense cease following the relinquishment of my present official position.

Respectfully submitted,
Preston A. McLendon, M.D.
Chairman, Executive Board

REPORT OF THE SECRETARY-TREASURER

This report summarizes as briefly as possible the principal activities of the Society in which the Secretary-Treasurer participated in an administrative capacity. Not included are routine responsibilities to which he devotes perhaps most of his time. These can be, and often are, of considerable importance.

For example, a substantial part of each day is given over to telephone calls from physicians and lay individuals seeking information and/or advice. Naturally these calls vary greatly in importance but all require patient and courteous attention.

The Secretary-Treasurer doesn't mean to suggest that he responds to all calls received at the Society's offices. In fact, his calls constitute only a small percentage, most of them being handled by members of the office staff. As is quite natural, the more difficult ones are frequently referred to him because of his long experience. This facet of his work gives him more genuine satisfaction than many of his other duties.

Although the pattern of the Society's activities does not vary greatly from year to year, there are always new projects. As the administrative officer, the Secretary-Treasurer is usually assigned the task of implementing them.

Scientific Programs

The Committee on Arrangements had misgivings about the success of the 27th Annual Scientific Assembly because it was scheduled to be held on the three days preceding Thanksgiving—November 24, 25 and 26, 1958. As it turned out, there was no need for concern because the meeting was not only well attended but was marked by the unusual interest of the physicians present. The total attendance was 2,254 of which 1,413 were members of the Society or guest physicians.

As has been stated in previous reports, 6 to 8 months are usually necessary to complete plans for the Assembly. This year committee chairmen were actively laying plans for the meeting a year in advance.

Obviously, much of the work in connection with the Assembly is of an administrative nature requiring the combined efforts of the Society's office staff. The Secretary-Treasurer would be remiss if he did not recognize the faithful and efficient service of Mr. L. A. Zupan, the Assistant Secretary, in connection with this undertaking.

The Eighth Midwinter Seminar, which was held on February 24, 25 and 26, 1959 was well received. The average attendance, 160, left something to be desired. Nevertheless, those present indicated their appreciation of the superior quality of the program, which was devoted to "Clinical Disorders of Respiration and Circulation."

There were 2 closed-circuit television programs presented in the Society's auditorium during the year. They were not only well attended (the auditorium on one occasion was filled to near capacity) but enthusiastically received.

The Upjohn Company sponsored the eighth in a series of telecasts on March 18, 1959, which originated at the Washington University School of Medicine in St. Louis. The subject discussed by panelists was "Chest Disease, Medical and Surgical." The second telecast, sponsored by Ciba Pharmaceutical Products, Inc., was on "Clinical Symposia—Hypertension." It was presented on May 27, 1959.

The Secretary-Treasurer has been working closely with the Committee on Postgraduate Education, which is developing a long-range program described in the annual report of the Chairman of the Executive Board.

Medical Annals

Medical Annals enjoyed its most successful year in 1959. For the first time in its history, there was an ample supply of scientific material on hand from which to select papers for publication.

This year, also for the first time, Dr. Wallace M. Yater, Editor of the Annals, invited various medical institutions in the Washington area to supply all scientific articles for special issues which would be dedicated individually to those accepting his invitation. Institutions which have responded so far and to which special issues have been dedicated are: Howard University, Walter Reed Army Medical Center, and National Naval Medical Center. Other special issues are contemplated in the near future.

Because of Washington's growth as a great medical center, a wealth of material should be available to the Society's publication. This suggests that if those who are responsible for it are aggressive enough, the ANNALS' future as a scientific journal is most promising.

As most members know, the Secretary-Treasurer is also Managing Editor of the ANNALS. His loyal and efficient aide over many years, Miss A. Louise Eckburg, is Assistant Editor.

The circulation of the ANNALS now stands at 2,900.

MEDICAL BUREAU

About everything which can be said about the BUREAU as a valuable agency of the Society has been said in the Secretary-Treasurer's previous reports. Nevertheless, he feels it incumbent upon him to remind the Society's membership of its value from a public relations standpoint and to keep them informed of its progress.

The BUREAU is now 19 years old, having been established in December 1940. It has operated continuously since that time 24 hours a day without one hour's interruption. This, of course, includes Saturdays, Sundays and holidays.

An analysis of the calls handled by the BUREAU in 1958 as compared with 1957 follows:

	1957	*1958*
Messages taken for physicians	228,907	227,925
Telephone calls to reach physicians	185,986	169,638
Emergency calls	4,943	4,529
Telephone calls to reach physicians for emergencies	5,965	5,673
Instructional calls from physicians	162,208	162,365
Referrals (names of three physicians from the Society's list are given in rotation)	28,283	37,317
	616,292	607,447

MEMBERSHIP IN GROUP HOSPITALIZATION

On September 1, 1958, there were 1,228 participants in the Society's group enrolled in Group Hospitalization, Inc. Of these, 941 were enrolled under the Preferred Contract and 287 under the Standard Contract.

As of September 1, 1959, the enrollment was 1,269. Of these, 1,093 were enrolled under the Preferred Contract and 176 were under the Standard Contract.

Physicians desiring to subscribe to Group Hospitalization, Inc. through the Society's offices must do so during the months of August or February. Applications cannot be processed at any other time.

MEMBERSHIP

As the following figures will show, the Society's membership continues to increase:

Membership on September 1	*1949*	*1954*	*1959*
Active	1,298	1,370	1,484
Life	77	74	55
Affiliate	0	18	36
Associate	302	452	572
Honorary	16	22	29
Resident-Interns	0	20	36
TOTALS	1,693	1,956	2,212

As previously reported, invitations to Membership Luncheons in the Society's Library are extended to newly elected members when there are a sufficient number. The purpose of these luncheons is twofold: first, to orient new members with respect to the Society's organization—its history, its functions and its finances, and second, to afford the neophyte an opportunity to fraternize on a more intimate basis with his newly elected colleagues. Attendance at these luncheons is limited to 25. Presiding is the President of the Society.

FINANCIAL RESPONSIBILITIES

The Secretary-Treasurer administers the Society's financial affairs under the direction of the Society's Finance Committee, a subcommittee of the Executive Board. The Committee reviews monthly expenditures with the Secretary-Treasurer.

Quarterly the Secretary-Treasurer submits to the Committee a report setting forth the comparison of the receipts and expenditures with the budget. The Committee, in turn, reports the state of the Society's finances to the Executive Board.

VARIOUS OTHER ACTIVITIES

Some members are perhaps not aware that in compliance with the provisions of the Society's Constitution and By-laws, the Secretary-Treasurer is the secretary of all committees. Because of the increase in his administrative responsibilities he has had to assign the Assistant Secretary to serve in this capacity with selected committees. . . . Clerical work in the Society's offices has been unusually heavy during the year. This was largely due to the details involved in the preparation of the Relative Value Scale and the Workmen's Compensation Fee Schedule. . . . Although the Secretary resigned during the year as Secretary of Medical Service of the District of Columbia, he continues as an ex officio member of its Board of Trustees *without vote.* He attended several of the meetings of the Board and is currently taking an active interest in its affairs. . . . Among the appointments which he accepted during the year were: membership on the Subcommittees on Impartial Medical Testimony and Proof of Scientific Facts, which are under the direction of the District of Columbia Committee of the American Bar Association's Section on Judicial Administration; the chairmanship of the Committee on Economic Problems of the Aging, which is under the direction of the District Commissioners' Council on Aging; and membership on the Advisory Committee of the State Medical Journal Advertising Bureau, Inc. . . . He submitted his resignation to Georgetown University School of Medicine where he has been Professorial Lecturer on Medical Economics. This step was necessary because of the increased demands made upon him at the Society's offices.

CONCLUSION

As is usually the case, the progress hoped for in 1959 was not fully realized. However, there were significant accomplishments. One was the adoption of the Relative Value Scale as a guide to private physicians in establishing their fees and to those charged with evolving a fee schedule in connection with the expansion of the benefits offered by Medical Service of the District of Columbia. Also to the Society's credit was the new Workmen's Compensation Fee Schedule, which was evolved after much laborious, time-consuming effort and adopted by the Society.

Problems of vital importance to the profession are still ahead. Among them are the solution, to at least some degree, of the economic problems of the aging, and the satisfactory operation of the health insurance program for Federal employees, which will be initiated in the next year.

There are many administrative details involved in these matters in which the Secretary-Treasurer will have a part. He looks forward to his share of responsibilities with keen anticipation and in the hope that he can make a real contribution.

The Secretary-Treasurer considers it a privilege to play a significant part in the Society's activities in these times. He wishes to acknowledge his indebtedness to the officers of the Society and to many members for their valuable assistance and for the consideration they have always shown him. He also wishes to express his appreciation to the loyal members of his staff for their interest and support.

Respectfully submitted,
THEODORE WIPRUD
Secretary-Treasurer

REPORT OF THE BOARD OF CREDENTIALS

The Board of Credentials is the body which screens applicants for membership in the Society. Several years ago the Board established a new procedure for handling applications to conform with the requirements of the Constitution and By-laws.

Applications are announced by letter to all Active and Life members. They are then referred to the Board of Credentials. Sometime during the next 2 months the applicants are interviewed and the Board determines whether or not the individuals applying are qualified for membership. The Board thereupon submits its recommendations with respect to each applicant to the Executive Board, which usually elects those recommended by the Board of Credentials for a probationary year.

From January 1, 1959, to September 1, 1959, the Board has interviewed 47 applicants for Active membership, 25 for Associate, and 5 for Resident-Intern membership. Most of these applicants have already been recommended for election to membership.

The Board of Credentials attempts to exercise every care in determining the applicants' qualifications for membership. Letters are written to medical societies to which the applicant has previously belonged to ascertain his professional standing and

(*Continued on page 608*)

Cancer Page

TUMORS OF THE MOUTH

Thorough examination of the mouth should be an integral part of a complete physical examination, yet this is one of the most frequently neglected areas. As a result, and because cancer of the mouth seldom produces pain until ulceration and infection occur, most of the lesions are well advanced before treatment begins. In large reported series of cases only a few of the lesions measure less than 2 cm. in diameter, yet these are the patients for whom survival rates are good.

Certain etiologic factors in this disease are of importance because they may determine in part the nature of the postoperative care. When careful histories are taken it will be found that approximately half of all the patients with mouth cancer are alcoholics. This condition is often associated with a poor diet and avitaminosis, which some authorities believe are directly related to cancer of the mouth. There are those who believe that avitaminosis produces leukoplakia. This has not been proved, but it has long been known that squamous carcinoma sometimes develops in an area of leukoplakia. Patients with white areas in the mucous membrane of the mouth must be watched carefully for any thickening, growth or papillation. Many of the patients with mouth cancers are heavy smokers. There is no doubt some justification for telling these patients to stop smoking and drinking, but few follow this advice, because it is obvious that the physician himself is not convinced that smoking and drinking are actually etiologic factors in the development of cancer.

Physicians are sometimes tempted to observe a lesion in the mouth and treat the patient conservatively. This is done without the realization that oral cancer is more important than any of the diseases with which it might be confused. If the diagnosis is uncertain a biopsy and histologic examination are mandatory. Dentists, with their patients returning periodically, have an excellent opportunity to find oral lesions, and they are referring more and more patients for biopsy or treatment.

Many types of benign and malignant tumors may occur in the mouth, but squamous carcinoma is by far the most common. These cancers vary considerably in their histologic appearance and also in their aggressiveness and their response to therapy. Tumors in the anterior part of the mouth are usually well differentiated and small, whereas those posterior to the circumvallate papillae carry a much worse prognosis. Posterior lesions are larger because they are discovered late, and approximately half of these patients have metastatic carcinoma in cervical nodes when first examined.

In the past the type of therapy has been determined largely by the location of the lesion, those in the posterior regions being treated by irradiation and the anterior tumors by surgical excision. Recently surgeons are attempting to improve the current poor survival rate by performing amazingly ingenious but extensive procedures in virtually all areas of the mouth and oral pharynx. For many patients irradiation in some form will be recommended. Interest, study and experience are all necessary to determine how a patient should be treated.

AVAILABLE TO CANCER PATIENTS: Free dressings; free sickroom equipment; homemakers; counseling service; financial assistance to eligible families to help meet the costs of hospitalization and treatment; and medications and the cost of care in nursing homes, in limited amounts, to eligible residents in the District.

For further information on these and other services available to your patients, please call the American Cancer Society, District of Columbia Division, Inc., 810 18th Street, N.W., Executive 3-3690.

News and Personals

MEETINGS

The Washington Hospital Center announces a **lecture in surgery** in its auditorium, October 20, at 8 p.m., under the sponsorship of the Ford Foundation. The speaker will be Dr. John L. Madden, Chairman of the Department of Surgery, St. Clare's Hospital, New York; his subject, "Considerations in the Pathogenesis and Surgical Management of Ascites." Members of the D. C. Medical Society and physicians in nearby areas are cordially invited to attend.

A Course on the Application of Histochemistry to Pathology will be presented by Walter Reed Army Medical Center, October 26–30, under the direction of Dr. Frank Johnson. Place of meeting will be the auditorium and teaching laboratory of the Armed Forces Institute of Pathology. Practicing physicians are invited to attend the lectures.

A Venereal Disease Seminar, sponsored jointly by the District of Columbia Chapter, American Academy of General Practice, and the District of Columbia Department of Public Health, will be held, Tuesday and Wednesday, October 27 and 28, in the Medical Society's auditorium. Topics will range from a discussion of venereal disease diagnosis and therapy, interpretation of laboratory findings, to the emergency management of anaphylaxis and angioneurotic edema.

The following speakers will appear on the program: Dr. Sidney Olansky, Associate Professor of Dermatology and Syphilology, Duke University; Dr. Warfield Garson, Director of the Venereal Disease Experimental Laboratory, University of North Carolina; Dr. Nicholas J. Fiumara, Director of Venereal Disease Control, Massachusetts Department of Public Health; Mr. C. S. Buchanan, Director of Venereal Disease Control, Georgia Department of Public Health; Dr. S. Ross Taggart, President-elect of the American Venereal Disease Association; Dr. Aston B. Greaves, Supervisory Medical Officer, Venereal Disease Control Program, D. C. Health Department; and Messrs. Gerald T. Moore and Glenn A. Bell, USPHS representatives with the D. C. Department of Public Health.

Dr. Maurice van Kinsbergen, President of the D. C. Chapter, AAGP, and Dr. Daniel L. Finucane, Director of the D. C. Department of Public Health, will welcome the participants. Dr. A. Truxton Morgan, Chief of the Health Department's Preventable and Chronic Disease Division, will introduce the speakers and will lead in the discussion period at each session.

Both sessions will start at 8 p.m. and are open to all members of the medical profession.

The Seminar has been approved by AAGP for 4 hours' credit in Category I.

The Metropolitan Washington Industrial Nurses' Association, in coöperation with the District of Columbia Association for Mental Health, will sponsor a **Symposium on Mental Health,** October 28 and 31, at the Shoreham Hotel. "Life's Stresses" will be the theme of the meeting.

The first session on Wednesday, October 28, will begin at 4:30 p.m. and will include a buffet supper. Guest speakers will be Dr. Alan A. McLean, Psychiatric Consultant, International Business Machines Corporation and Instructor in Psychiatry, Cornell University Medical College, and Dr. Warren Guthrie, Professor and Chairman of the Department of Speech at Western Reserve University.

The Saturday program, October 31, will open at 9:30 a.m., with a panel discussion on "Life's Stresses" discussed from the viewpoint of the industrial nurse, industrial physician, psychiatrist, line supervisor, and management. Moderator of this panel will be Dr. Lawrence A. Pyle, Jr., Assistant Medical Director of the Chesapeake and Potomac Telephone Companies.

Physicians, nurses, members of management, and other interested individuals are cordially invited to attend. Chairman of the Committee on Registration is Mrs. Octa B. Winter, R.N., Potomac Electric Power Company, 929 E Street, N.W., Washington 4, D. C.

Children's Hospital and the District of Columbia Division of the American Cancer Society are sponsoring a **Pediatric Cancer Seminar,** to be held in the Wall Auditorium of the Hospital, November 10, from 1 to 4 p.m.

Guest speakers will include Dr. Harry Bishop, Children's Hospital, Philadelphia; Dr. Philip Sturgeon, Children's Hospital, Los Angeles; Dr. Joseph Burchenal, Memorial Center for Cancer and Allied Diseases, New York City; and Dr. G. J. D'Angio, Children's Medical Center, Boston. Members of the attending staff from the Departments of Surgery, X-ray and Pathology of Children's Hospital, Washington, will also participate in the program.

The meeting is open to all interested physicians. There is no registration fee.

The Allergy Section of the Research Foundation of Children's Hospital of D. C. is presenting a **Postgraduate Course in Hypersensitivity,** November 21 and 22, 9 a.m. to 4 p.m., at Children's Hospital, which will be of special interest to pediatricians, internists and general practitioners.

Instructors for the Course are: Drs. Elmer L. Becker and Geoffrey Edsall, of Walter Reed Army Institute of Research; Drs. Sheldon Dray, Joseph A. Bauer, Jr., Phillip R. B. McMaster, and Sanford H. Stone, of the National Institute of Allergy and Infectious Diseases; and Dr. Robert H. Parrott, Physician-in-chief and Director of the Research Foundation of Children's Hospital.

The program is approved by the Subspecialty Board of Allergy of the American Board of Pediatrics for 36 hours' credit and by the Academy of General Practitioners for 12 hours' Category I credit.

Registration fee of $35 should be mailed to Dr. Richard H. Todd at Children's Hospital. The deadline for registration is November 15.

Dr. Paul Chodoff, Program Chairman for the **Washington Psychiatric Society,** announces that the November meeting of the Society will be a joint one with the Washington Psychoanalytic Society. It will be held in the auditorium of the D. C. Medical Society on November 27 at 8:30 p.m. Dr. Lawrence S. Kubie, of New York, well known lecturer and instructor in psychiatry and psychology, will be the guest speaker.

GENERAL NEWS

A delegation of Italian physicians, on a tour of the United States, visited the Medical Society's building Thursday evening, August 20. A group of 75 physicians were in the official party, but because of transportation difficulties only 6 were able to be present. They were: Dr. Tommaso Archilei (Obstetrician and Gynecologist), Foligno; Dr. Giovanni Baccaglini (Pathologist and Surgeon), Este; Dr. Marzio Modena (Orthopedic Surgeon), LaSpezia; Dr. Klena Pasotti (Internist), Milan; Dr. Piero Romussi (Obstetrician and Gynecologist), Mestre-Venezia; and Dr. Mario Santori (Ophthalmologist), Cremona. They were accompanied by the Minister Councilor of the Italian Embassy, Carlo Perrone Capano.

Dr. W. LeRoy Dunn, President of the Medical Society, welcomed the guests and presented them with a District flag; it was accepted by Dr. Modena. After a social hour and a tour of the building, the guests were treated to an Italian dinner at Aldo's Restaurant by a group of Washington physicians.

The following day a reception was held at the Italian Embassy in honor of the visiting physicians, to which many Washington physicians and their wives were invited. His Excellency, The Ambassador of Italy, and Signora Brosio greeted the guests. President Dunn was presented with an old and historic medical book, published in 1626, by Dr. Giorgio Rossitto, Director of the Center of Experimental Medicine and Surgery, University of Milan, in behalf of himself and colleagues. Dr. Dunn brought the book to the Medical Society's headquarters to be displayed among its trophies.

The Honorable Charles S. Dewey, Chairman of the District of Columbia Chapter of the American Red Cross, announces that through an exchange of correspondence and a number of conferences over a 12-month period **Providence Hospital** has concluded that the best interests of their hospital would be served by operation of its own blood collection facility with complete dependence upon its own resources for supplying all the blood needs of its patients. This plan of operation became effective, September 15.

Subsequent to September 15, Red Cross blood will continue to be available to eligible participants in all other hospitals in Washington and throughout the entire region. Mr. Dewey emphasizes that this will in no way affect the eligibility of blood donors to the Red Cross to receive blood in any other of the Washington or regional hospitals.

Mr. Dewey stated further that the Red Cross will always provide blood in emergencies or disasters to all hospitals as a part of its great disaster service, whenever or wherever such disasters occur.

Brigadier General Francis W. Pruitt, M.C., U.S.A., Chief of the Department of Medicine, **Walter Reed Army Hospital,** retired from military service, August 31. He has accepted a position as coördinator of graduate education at Hillcrest Medical Center in Tulsa, Oklahoma. Before he retired he was awarded an Oak Leaf Cluster to his Legion of Merit decoration by Brig. General C. F. St. John, Commanding General of the Center, at ceremonies attended by Hospital officials. He was cited for exceptionally meritorious conduct in the performance of dual positions—as Chief of the Department of Medicine, 1953 to 1957 and 1958–59, and as Chief Medical Consultant, Office of the Surgeon General of the Army (1957–58).

Upon nomination by President Eisenhower, General Pruitt was promoted to Major General of the Regular Army by action of the Senate, September 9.

Because of his resignation from military service General Pruitt resigned as Consulting Editor of the Medical Annals.

The Washington Psychiatric Society is again offering an **essay prize** of $100.00 in open competition to anyone who is in resident training at any level in psychiatry. The paper may be on any psychiatric topic. All papers must be submitted to Dr. Leon Yochelson, Secretary of the Society, not later than March 1, 1960, at which time a review committee appointed by the Council will select the prize-winning paper.

The American Cancer Society has awarded a total of $39,250 to individuals and institutions in the District of Columbia for use in a Nation-wide research program.

George Washington University was granted $18,000 for 18 months. This grant, which is a renewal, is designed to stimulate interest and participation in research related to cancer on a University-wide basis. Dr. Paul K. Smith, of George Washington University, received $11,250 for a 1-year project to continue studies of certain compounds which have proved useful in the chemotherapy of cancer. Dr. Smith also received a grant of $5,000 to continue studies of essential body chemicals involved in growth.

The National Academy of Sciences was awarded $5,000 to partially support the Institute of Laboratory Animal Resources of the Division of Biology and Agriculture.

Dr. Jean H. Yacoubian, of Albany, New York, has been named **Director of the Washington Institute of Mental Hygiene.** He replaces Dr. William M. Hull, now with the D. C. Mental Hygiene Clinic.

Dr. Yacoubian, a native of Lebanon, came to the United States in 1952. He was formerly Assistant Professor of Psychiatry at Albany Medical College and more recently has been in the private practice of psychiatry in Albany.

Diabetes Week this year is **November 15–21.** Dr. Louis K. Alpert, of Washington, Chairman of the Committee on Public Education and Detection of the American Diabetes Association, is in charge of the 1959 Detection Drive.

The District of Columbia Society for Crippled Children has moved from 2301 Pennsylvania Avenue, N.W. into its new quarters at 2800 13th

Street, N.W. The telephone number is Adams 2-2342.

Dr. Robert T. Stormont, Director of the Department of Therapy and Research of the **American Medical Association,** left the AMA in August to become Vice President of the Vic Chemical Company. Dr. Stormont had been with the AMA since 1950. He assumed his new duties on October 1.

PERSONALS

Dr. John D. Schultz was named Medical Director of the District of Columbia General Hospital, August 28, by the District Commissioners, succeeding Dr. Joseph F. Fazekas, who retired in August. In his new post, Dr. Schultz will head both the administrative and medical staffs. He has been Chief Psychiatrist at the Hospital since 1954.

Dr. Schultz, a graduate of Johns Hopkins University School of Medicine, is Associate Professor of Psychiatry at Georgetown University School of Medicine. He was Chief of the Mental Hygiene Clinic at Georgetown from 1951 to 1954. He has also headed the outpatient section of the Division of Psychiatry and Neurology of the Veterans Administration's Central Office.

Dr. Pearce Bailey, Director of the National Institute of Neurological Diseases and Blindness for the past 8 years, has been named Director of the Institute's new International Neurological Research Programs.

Dr. Richard L. Masland, Assistant Director, succeeds Dr. Bailey as Director of the Institute.

In his new post, Dr. Bailey will encourage the international exchange and coördination of scientific knowledge relating to neurologic and sensory disorders. He will serve in a liaison capacity with the World Federation of Neurology, an international professional organization with headquarters in Antwerp, Belgium, and as an advisor to the National Institutes of Health on international neurological developments.

Dr. Worth B. Daniels is serving on a Board of 15 civilian physicians and 2 military physicians which is directing the compilation of the history of the Army Medical Service's role in internal medicine during World War II. Serving *ex officio* on the Advisory Editorial Board is **Colonel John B. Coates, Jr., M.C.,** Chief of the U. S. Army Medical Service Historical Unit, Walter Reed Army Medical Center. Colonel Coates was recently elected to Associate membership in the District Medical Society.

Dr. Reginald S. Lourie, Chairman of the Department of Psychiatry at Children's Hospital, was invited by the Office of the Surgeon General of the U. S. Army to make a consulting tour of U. S. military hospitals with psychiatric facilities in Germany, France and Italy. Dr. Lourie left for Europe, September 28, and will return to Washington on November 16.

Dr. Charles D. Shields, Professor of Surgical Medicine and Rehabilitation, and Chairman of the Department, at Georgetown University School of Medicine, has been elected to the Executive Committee of the District of Columbia Chapter of The National Foundation.

Theodore Wiprud received a citation in appreciation of his services on the Advisory Committee to the Director of the Communications Division of the American Medical Association during its Public Relations Institute in Chicago, August 20–21. Mr. Wiprud served on the Committee from 1954 to 1957.

Dr. Salomon N. Albert, Head of Anesthesia at District of Columbia General Hospital, will leave the Hospital, October 31, to join the staff of the Washington Hospital Center. **Dr. Chalom A. Albert,** Medical Officer in the same department, and an Associate member of the D. C. Medical Society, will join the staff of the Washington Hospital Center in November.

Dr. Charles Farwell, an Associate member of the Medical Society, has been elected to the Board of Directors of the Montgomery County Planned Parenthood League.

DECEASED MEMBERS OF THE MEDICAL SOCIETY

1958–1959

Barnes, Earl B.	(Active)	September 12, 1959
Blumenthal, Basil	(Active)	December 6, 1958
Compton, Arthur G.	(Associate)	June 19, 1959
Cousins, Sidney C.	(Active)	October 11, 1958
Ecker, Lewis C.	(Life)	August 10, 1959
Fuller, Homer G.	(Life)	February 13, 1959
Gilbert, Joseph L.	(Active)	November 13, 1958
Glew, Donald H.	(Associate)	April 20, 1959
Glover, Mervin W.	(Associate)	January 9, 1959
Lee, J. Gordon	(Associate)	May 9, 1959
Lewis, Lloyd G.	(Active)	March 2, 1959
Mundell, Joseph J.	(Life)	August 30, 1959
Piggott, J. Burr	(Life)	February 10, 1959
Reede, Edward H.	(Life)	March 14, 1959
Schneider, Elwin P.	(Active)	June 11, 1959
Shull, Ernest C.	(Associate)	May 7, 1959

Report of Board of Credentials

(*Continued from page 602*)

membership status. If he has served with the Armed Forces he is required to provide the Board with photostats of documents showing that he has served honorably. Thus the Board endeavors to assure the Society that only the highest type physicians are elected to membership.

It is with the deepest regret that your Board reports the death of 16 members.

Respectfully submitted,
O. Hugh Fulcher, M.D., *Chairman*
W. Robert Perkins, M.D.
Paul R. Wilner, M.D.

Surgery on Infants—Evans and Blades

(*Continued from page 549*)

and work with the pediatrician, but the final responsibility should remain with the surgeon.

Summary

Some of the more important aspects of dealing with infants undergoing surgery and the differences from handling adults have been presented. A few basic principles and methods that have been employed successfully have been discussed. All of these principles and methods, however, will be useless unless there is a deep respect, appreciation and realization of the frailty and dependence of infants. The following publications and textbooks[1-9] will be helpful to the physician dealing with infants undergoing surgery.

BIBLIOGRAPHY

1. Chandler, L. R.: Symposium on total care of surgical patient; preoperative and postoperative care in infants and children. S. Clin. North America, 1954, **34**, 1463.
2. Colby, F. H.: Essential Urology, 2nd ed. Baltimore: Williams & Wilkins, 1953.
3. Davison, W. C.: The Compleat Pediatrician, 6th ed. Durham, N. C.: Duke Univ. Press, 1949.
4. Gross, R. E.: The Surgery of Infancy and Childhood: Its Principles and Technics. Philadelphia: Saunders, 1953.
5. Koop, C. E.: Symposium on applied physiology in modern surgery; physiologic considerations in surgery of infants. S. Clin. North America, 1955, **35**, 1745.
6. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, 2nd ed. Baltimore: Williams & Wilkins, 1951.
7. Lynn, H. B.: Special considerations in the surgical care of infants. Postgrad. Med., 1957, **22**, 492.
8. Nelson, W. E., editor: Mitchell-Nelson Textbook of Pediatrics, 6th ed. Philadelphia: Saunders, 1954.
9. Whitby, L. E. H., and Britton, C. J. C.: Disorders of the Blood: Diagnosis, Pathology, Treatment, Technic, 7th ed. New York: Grune, 1953.

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Book Reviews

Surgical Pathology, 2nd ed. LAUREN V. ACKERMAN, M.D., in collaboration with HARVEY R. BUTCHER, JR., M.D. Price, $15.00. Pp. 1096, with 1114 illustrations. St. Louis: Mosby, 1959.

Written by Dr. Lauren V. Ackerman, well known surgical pathologist and Professor of Surgical Pathology and Pathology, in direct collaboration with Dr. Harvey R. Butcher, Jr., Associate Professor of Surgery, both at Washington University, St. Louis, the new second edition again represents an entirely up-to-date book of the lesions encountered by the surgeon and the surgical pathologist. The former will appreciate a text which remains readable even in its more didactic aspects. The latter will enjoy the detailed photomicrographs for comparison when encountering an atypical lesion. There are also many gross photographs, X-rays, and schematic illustrations, all of which are well reproduced.

Thus, the book should also be of great value to the resident in showing the classical picture of a lesion and the current theory as to its origin and consequences. It also supplies detailed descriptions of gross lesions, their location, and age incidence (often in table form), and then gives their prognoses as asked for by the patient.

Dr. Butcher contributed a section on Wound Healing and a new chapter on Vessels which includes an illustrated discussion of homografts and synthetical prostheses. The section on Non-neoplastic Conditions of the Skin was revised, adding to its clarity, and the chapter on the Central Nervous System completely rewritten so as to include new photomicrographs and greater detail of the part on muscle diseases. Dr. L. E. Zimmerman, Chief of the Department of Ophthalmology at the Armed Forces Institute of Pathology, wrote a thorough chapter on the Surgical Pathology of the Eyes and Ocular Adnexa, which includes dissecting technic.

Due to proper allotment of space to lesions in order of their frequency and importance, and by good organization, it has been possible to cover an immense amount of material in a single, carefully indexed volume; it thus seems a worthwhile addition to a shelf of often-referred-to books.

GEORGE E. WHITE, M.D.

A Textbook of Medicine, 10th ed. Edited by RUSSELL L. CECIL, M.D., SC.D., AND ROBERT F. LOEB, M.D., SC.D., D. Hon. Causa., LL.D. Associate Editors: ALEXANDER B. GUTMAN, M.D., PH.D., WALSH MCDERMOTT, M.D., AND HAROLD G. WOLFF, M.D. Price, $16.50. Pp. 1665, with 182 illustrations. Also available in 2 volumes; price, $20.50. Philadelphia: Saunders, 1959.

This new edition of a popular textbook of medicine lives up to the excellence of former editions. It is one of the best single volume textbooks of medicine, containing 1,665 pages of text. Its excellence is due to the high quality of the numerous contributors and the excellent job of editing by Drs. Cecil and Loeb and Associate Editors Alexander B. Gutman, Walsh McDermott, and Harold J. Wolff.

As in many books written by multiple authors, there are some deficiencies, but they are few. This reviewer was disturbed to note that less than 18 pages of text were devoted to the commonest cause of death, "diseases of the coronary arteries." The author of this subject is an outstanding man, but obviously he was given a limitation of space far beyond the importance of the subject. In spite of this the book can be recommended highly.

Readings in Psychoanalytic Psychology. Edited by MORTON LEVITT, PH.D., with 24 contributing authors. Price, $8.50. Pp. 413. New York: Appleton, 1959.

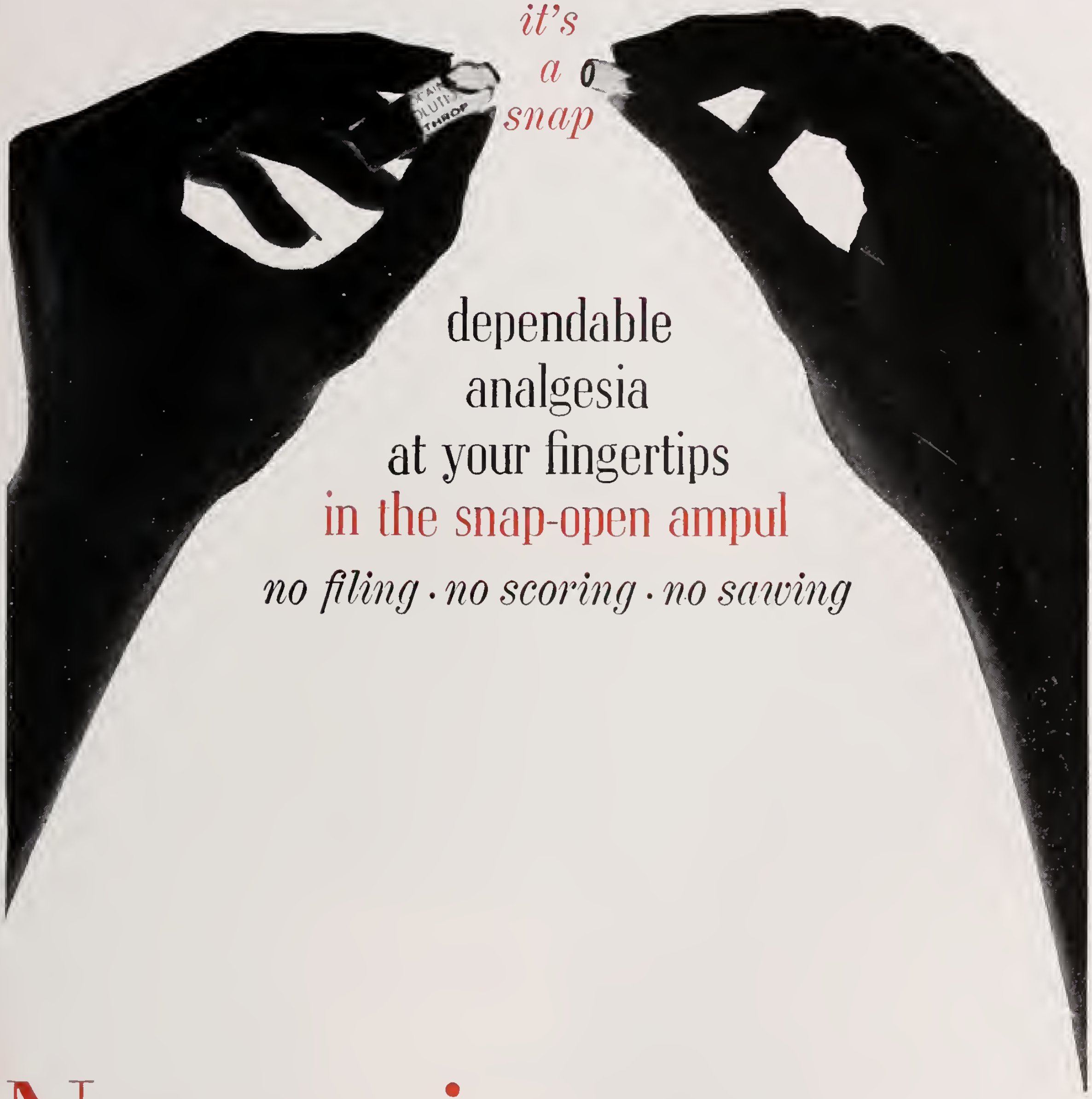
The editor, who also contributes 2 of the papers and collaborates in another, is a psychologist and Associate Professor of Psychiatry on the faculty of a medical college; a commentary on the recently expressed ideas of Dr. Matthew Ross concerning psychiatric positions which are going by default to others. It seems to me that the book is used in part for the unstated purpose of promoting the position of psychologists in the field of psychoanalysis.

Its stated purposes are: to correct the parochialism of scientists as it pertains to the science of psychoanalysis; "to provide in one place reliable source material for students of the behavioral sciences"; and "through a realistically comprehensive treatment of both the theoretical and practical aspects of psychoanalysis, . . . to point the way toward increased understanding of the purposes and practices within the field."

No mere anthology, the volume pursues these purposes by means of 26 papers, 14 of them previously published and 12 apparently written expressly to fit into the scheme of the book. Each paper is preceded by a brief introductory orienting note written by the editor.

Some of the authors are well known as authorities in the field, and a few of the papers are classics. There is a chapter, difficult for me to understand, on the scientific evaluation of psychoanalytic concepts and theories, and another, rather unusual and intriguing in a collection of this kind, entitled "Freud and Literature" by Lionel Trilling, Ph.D., Professor of English at Columbia University. His definition of psychoanalysis is: "The only

(*Continued on page 62*)



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Book Reviews

(*Continued from page 60*)

systematic account of the human mind which, in point of subtlety and complexity of interest and tragic power, deserves to stand beside the chaotic mass of psychological insights which literature has accumulated through the centuries."

Few people will find every paper in this volume worth reading, but most physicians, including psychiatrists, are likely to be interested in at least a few of the papers.

THOMAS E. GRIFFIN, M.D.

Navy Surgeon. An Autobiography. REAR ADMIRAL HERBERT LAMONT PUGH, M.C. (RET.), USN. PRICE, $5.00. Pp. 459. Philadelphia: Lippincott, 1959.

Most doctors' autobiographies hold only casual interest for the general reader. Usually they are recollections of personalities in medicine familiar only to doctors, or they contain experiences primarily of professional interest. Such incidents as the lay reader might enjoy reading about are too often recounted in prosaic fashion.

Admiral Pugh possesses an exceptional gift for narrative. In this book he has done what few nonprofessional writers can do—brought to life in a colorful and highly interesting manner his youthful experiences. Most of them are commonplace enough but he transmits to the reader in vivid prose young Pugh's insatiable curiosity and enthusiasm for zestful living. These characteristics are evident throughout the book.

One suspects that Admiral Pugh has long kept a written account of things he has seen and heard. Otherwise many details which he relates would have long since been forgotten. If this assumption is correct, the book might well have been entitled, "The Diary of Lamont Pugh."

This reviewer found the early years of Admiral Pugh's life—"The Green Years"—and a substantial part of "Heyday" the most absorbing. His years in the Navy's Bureau of Medicine and Surgery in Washington were so full of activity that the chapters dealing with them are fragmentary. As a result they lose the flavor of other parts of the book.

Admiral Pugh's book is recommended to all readers who enjoy a well-told story by a man who has lived many lifetimes in one.

T. W.

Diseases of the Colon and Anorectum. Edited by ROBERT TURELL, M.D. Two volumes. Price, $35.00 per set. Vol. I, pp. 1–608. Vol. II, pp. 609–1238. Philadelphia: Saunders, 1959.

This book is a compendium of the diseases of the colon and anorectum by 84 contributors, most of whom are eminent in their fields. Despite the effort to contain the specialty to 2 volumes and 1,238 pages, there are

(*Continued on page 64*)

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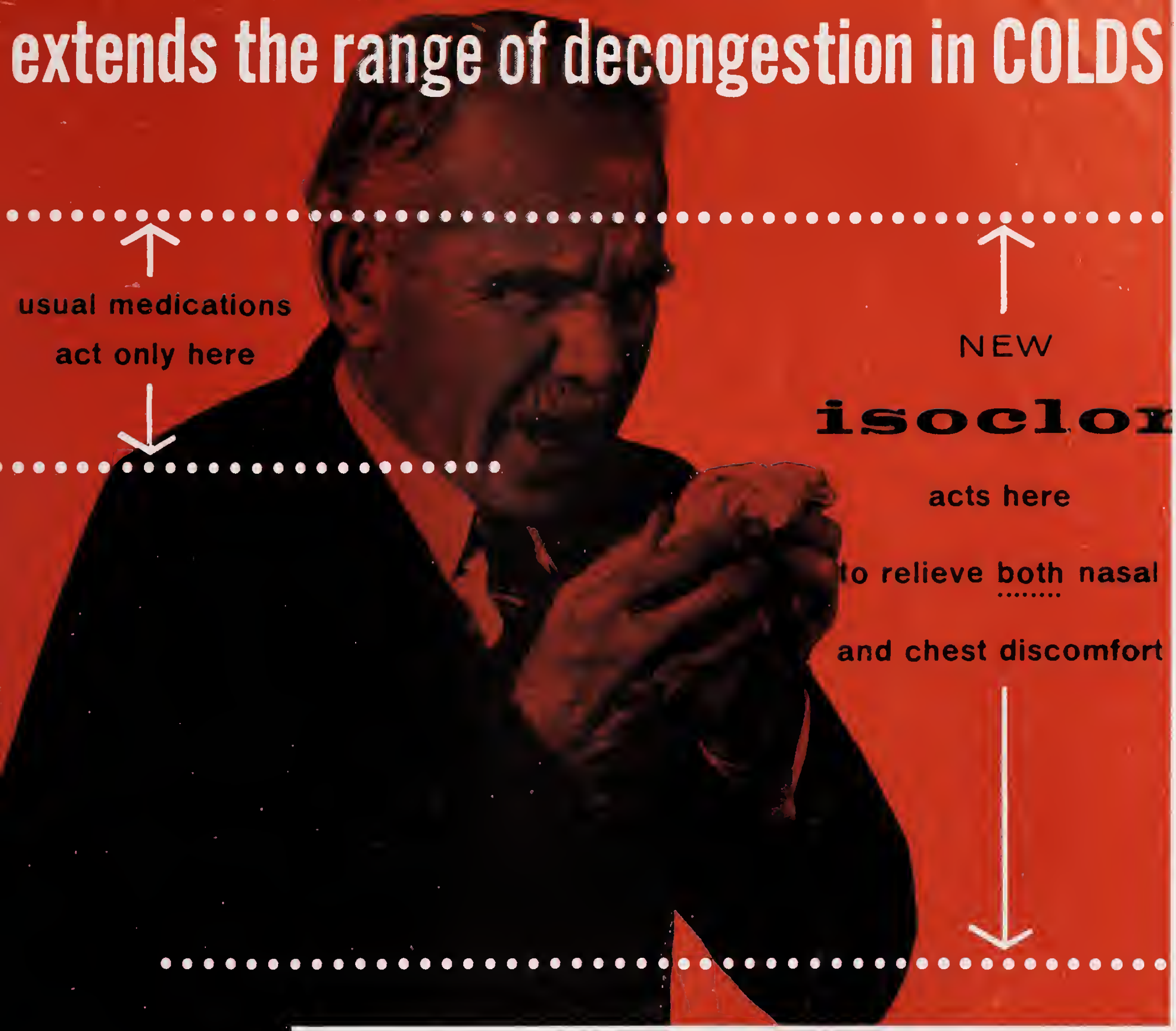
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1. Aviado, D. M. et al: J. Pharmacol. & Exper. Therap. 122: 406-417 (Mar.) 1958. 2. Laboratory Report: Research Div., Chas. C. Haskell & Co., 1959.

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Book Reviews

(*Continued from page 62*)

sufficient detail and explanation to give the reader a clear understanding of the subject at hand.

Clarity and conciseness notwithstanding, there are portions of this book, such as The Fundamentals of Body Fluids and Electrolyte Imbalance, which add nothing to the presupposed "background" knowledge which anyone reading this book should have. Since they deal in generalities rather than specifically to the colon and anorectum, they might just as well have been omitted.

Statistical as well as diagnostic and therapeutic considerations are included; bibliographic references are extensive at the end of each chapter and cross references in the text are frequent as an aid to complete coverage of the topic. Many diagrams, drawings, and histopathologic slides adequately illustrate the adjacent descriptions.

All in all, Dr. Turrell undertook a tremendous task and has done well in correlating the many contributions to this book. It contains a wealth of information on the subject and is recommended both as a reference and as a text.

C. F. Hill, M.D.

Patient Care and Special Procedures in X-Ray Technology. Carol Hocking Vennes, R.N., B.S., and John C. Watson, R.T. Price, $5.75. Pp. 203, illustrated. St. Louis: Mosby 1959.

This slim volume provides an excellent supplement to the conventional books on X-ray technic. As pointed out in the preface, our books on technic usually fall short in depicting the role of the technicians in the medical team and providing good guidance to the proper approach to patients and their general care and handling in the department. There is also need for more ample information on special procedures. The book covers these particulars well.

Helpful background information is given on the nature of technicians' work, opportunities, and training requirements. Problems common to nursing and the X-ray departments are discussed. Matters such as physical assistance, considerations of age, degree of consciousness, and first aid in emergencies are well presented.

Several chapters are devoted to the problems of bedside radiology. The chapters dealing with special examinations include not only the more familiar procedures but also neuroradiography and angiography. The final chapter discusses radiography in the operating and recovery rooms.

In general, the text is clear, concise and also well illustrated. Ample reference material is listed after each chapter and the index is quite comprehensive. I find my own technicians like the book.

Charles. F. Behrens, M.D.

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VOLUME XXVIII *November*, 1959 NUMBER 11

GEORGETOWN UNIVERSITY MEDICAL CENTER NUMBER

FOREWORD

The scientific section of this issue of the Medical Annals of the District of Columbia is devoted to papers contributed by members of the Department of Medicine at Georgetown University School of Medicine. It is significant that each of the authors, or, in a few instances, the senior author, is one of the junior members of the Department. The quality of the papers, whether their nature is that of clinical investigation or review, reflects the climate of the Department of Medicine in my 11 years as a member of it.

This issue is in reality dedicated to the Chairmen of the Department of Medicine during my period of time at Georgetown, since each of them, Dr. Harold Jeghers, Dr. Hugh H. Hussey, and the present Chairman, Dr. Laurence H. Kyle, has been devoted to the principle of fostering and sponsoring young men to find their proper place in the sphere of academic medicine. All too often the Chief is taken for granted, and rarely are tributes forthcoming during his active days as a chief. This issue by the younger men of the Department of Medicine reflects the philosophy of these 3 chairmen of the Department, who have been devoted to inspiring and persuading the appropriate people to follow the sometimes difficult and sometimes little rewarding pursuit of academic medicine.

Another aspect of this issue is the contribution that a medical school makes to the welfare and betterment of the medical practice in the community in which that medical school resides. I believe that these papers demonstrate this principle in actuality.

Irving B. Brick, M.D., F.A.C.P.
Associate Professor of Medicine,
Georgetown University School of Medicine;
Consulting Editor, Medical Annals
of the District of Columbia

THE STUDY OF URINE*

LEONARD B. BERMAN, M.D.

Assistant Professor of Medicine, Georgetown University School of Medicine

PHYSICIANS from pre-Hippocratic times have acknowledged the unique value of urine as a readily accessible body fluid which often reflects disease states. The early Hindus recognized glycosuria by the attraction such urine held for ants. A seventh century writer described heating the urine and looking for cloudiness as a sign of disease. These and other accurate observations gradually became interwoven with a large body of absurd and fanciful notions about urine, so that by the twelfth century a new medical specialty, uroscopy, was firmly established. Its practitioners, variously called water doctors, urinarians, and piss-prophets, based their diagnoses, therapies and prognoses upon physical inspection of the urine. This inspection was carried on in the presence of the patient with a duly impressive ritual, including the use of a specially shaped flask (figure 1).

With the development of chemistry and microscopy in the seventeenth century the serious study of urine began. Observations of specific gravity, acidity, urea content and the like slowly but inevitably displaced the charlatan uroscopists and gave rise to the modern science of urinology. Succeeding generations of scientists continued to add information about urine and its correlation with various disease states.

Our own times present the paradox of a detailed knowledge of urine and a disinclination on the part of the physician to make full use of it. The oscilloscopes, phonocardiograms and ophthalmodynamometers have crowded the glass slide, microscope, and hydrometer off the physician's desk. We urinologists must strike back vigorously. The observations which follow are intended to persuade the clinician that careful and personal attention to his patient's urine is a necessary supplement to the history and physical examination.

THE GROSS APPEARANCE OF URINE

Urine color is normally determined by the concentration of urochrome, a combination of urobilin and a polypeptide. Since a constant amount of urochrome is produced each day, the color of normal urine varies with its water content.

The relationship between color and specific gravity is not always the anticipated one; e.g., lightly colored urine with a high specific gravity may be presumed to contain sugar. The light color reflects the osmotic diuresis that accompanies the glycosuria with its corresponding dilution of the urochrome. The high specific gravity is due to the presence of the relatively heavy sugar molecules. Dark urine with a low specific gravity usually contains a pigment such as hemoglobin. The mechanism for the appearance of hemoglobin in the urine has recently been clarified by the discovery of a hemoglobin-binding protein in the blood called haptoglobin. It is only when the capacity of haptoglobin is exceeded (at plasma hemoglobin levels of ±150 mg. per 100 ml.) that the free or unbound fraction may be excreted in the urine.

Abnormal urine colors also include the reddish-brown of bile, the black of melanin or homogentisic acid, the reddish-purple of porphyrins, the red of beet pigment, the white of chyle, the dark amber of urobilinogen, and many other changes associated with drugs, crystals, and dyes. Ferric chloride is an interesting reagent with regard to urine color. In the presence of phenylpyruvic acid it turns urine green, and in the presence of aceto-acetic acid or salicylate it produces a purple color. These changes are useful clinically as qualitative tests.

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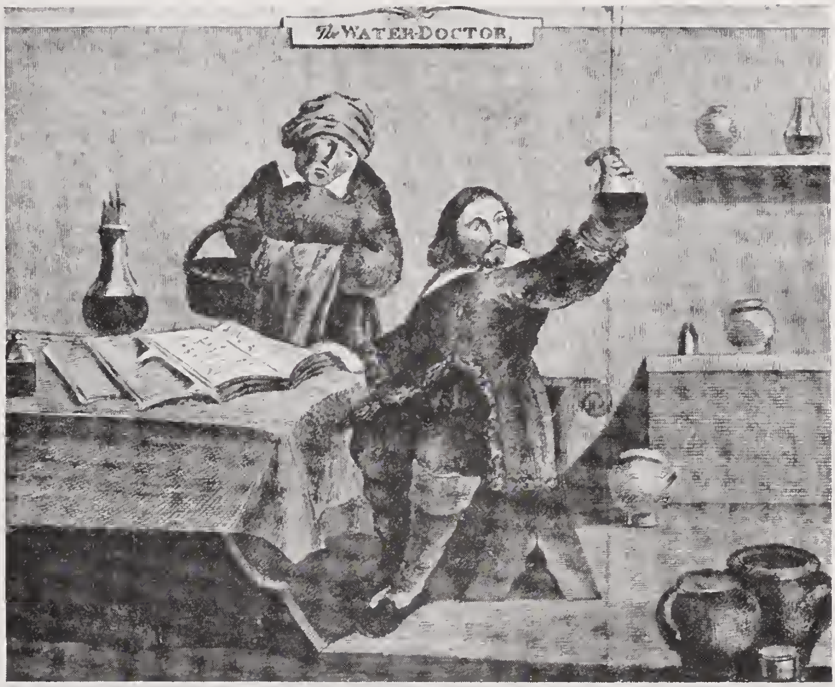
* From the Department of Medicine, Georgetown University School of Medicine, and the Georgetown Medical Division, District of Columbia General Hospital.

Blood colors the urine in different ways depending on the circumstances. Prolonged contact with an acid urine changes hemoglobin to acid hematin, imparting a dark brown coffee-colored appearance to the urine (as in acute glomerulonephritis). Brisk bleeding from a tumor, on the other hand, stains urine pink or red depending on the rate of bleeding and the rate of urine formation.



The Water Doctor, or Urinarian. From a pamphlet by Dr J. C. Lettsom (1776)

Fig. 1. A medieval uroscopist at work.

Particulate matter includes red cells, polymorphonuclear leukocytes, casts, squamous and tubular epithelial cells, crystals, mucus, stones, tissue, and bubbles of odorless hydrogen gas (in the presence of glycosuria and bacteria).

The surface of the urine may show excessive and persistent foam formation, indicating a high protein content. The nephrotic syndrome provides protein sufficiently concentrated to show this. The surface may also show fat droplets in fat embolism to the kidneys following long-bone fractures, or following infarctions of the bone marrow in sickle-cell disease.

Microscopic Appearance

Although the study of urine sediment has long been correlated with clinical events, surprisingly little is known of the mechanism whereby some of the more important elements appear in the urine. The site of cast formation, the composition of hyaline, waxy, and broad renal-failure casts are matters of uncertainty. Nonetheless, useful empiric correlations have been made, e.g., the scarcity of casts in pyelonephritis, the fatty casts of the nephrotic syndrome, and the waxy casts that result from the breakdown of cellular casts in the presence of intrarenal obstruction to flow.

The presence of polymorphonuclear leukocytes in the glomerular filtrate and urine is a response to inflammation. This is not necessarily of infectious origin. Nephron response to acute glomerulonephritis, for example, may fill the urine with pus and pus casts, in addition to the characteristic blood and blood casts. Other types of white blood cells do not usually appear in urine, although they may be present in large numbers in the interstitial tissue of the kidney, e.g., the absence of pyuria in chronic pyelonephritis when the tissue infiltrate has become largely mononuclear. An interesting exception occurs in leukemias, in which renal infiltrations may result in the appearance of the predominating cell-type in the urine. Many attempts have been made to differentiate types of polymorphonuclear leukocytes in the urine as to site of origin. Short of finding them in casts, this is not presently possible even with supravital stains such as the glitter stain.

Fat may be microscopically visible in the form of droplets that have accumulated in tubular epithelial cells. These cells are often excreted intact into the urine, or they may rupture and discharge the fat droplets free, or become embedded in hyaline casts. Whatever portion of fat is in the form of cholesterol esters will appear doubly refractile under polarized light and may be easily identified. Doubly refractile fat bodies are most frequently found in the nephrotic syndrome of any etiology or in intercapillary glomerulosclerosis and chronic glomerulonephritis. An intact tubular epithelial cell containing fat droplets is called an oval fat body and has the same significance as the doubly refractile fat body. The metabolic defect underlying the accumulation of fat is obscure. The lipiduria is not necessarily correlated with an elevated blood cholesterol.

The identification of crystals is important in certain specific instances. (The common crystals, phosphates, oxalates and urates, are usually without clinical significance.) Cystine is a poorly soluble amino acid that may appear in the urine as a result of congenital failure of tubular reabsorption. It crystallizes in acid urine as hexagonal plates. The crystals of tyrosine and leucine are found in severe liver failure (the blood concentrations of the amino acids rise and the filtered load exceeds the reabsorptive capacity). Sulfonamides crystallize, depending on the particular compound, its concentration and the pH of the urine.

Bacteria may enter the urine at any point from the glomerulus to the urethral meatus. The permeability of the normal nephron to bacteria is of major interest. For example, in typhoid fever the regular occurrence of bacilluria is not accompanied by any clinically detectable renal disease. The possibility of quickly healing microscopic lesions has been raised. Some early animal experiments suggested that bacteria injected into the renal artery may promptly appear in the urine, but the problem has not been restudied.

Urine may reflect the condition of the tubular epithelium past which it flows. Thus, there may appear hemosiderin granules in hemochromatosis, metachromatic lipids in cytomegalic inclusion disease, neoplastic cells, and others.

CHEMICAL CHARACTERISTICS

The chemical characteristics of normal urine depend somewhat on the methods of examination employed. The clinician is long used to thinking of sugar and protein as normally absent. More precise measurements have shown the presence of several varieties of each. The amounts, of course, are quite small.

Protein excretion does not normally exceed 100 mg. per day. There is a normal preponderance of globulin. The excretion rate is not constant over the 24-hour period, and a short period of collection cannot be used to extrapolate the daily rate. Theoretically, increased amounts of protein might occur with abnormally permeable glomeruli, with failure of tubular reabsorption of filtered protein, or with tubular excretion of protein into filtrate. The first of these seems most reasonable at present in most instances. The level of protein excretion is of considerable help clinically, since renal diseases tend to fall into rough groupings. Examples from each end of the spectrum include pyelonephritis, benign nephrosclerosis, postural proteinuria—less than 1 Gm. per day; the nephrotic syndrome, multiple myeloma with Bence Jones proteinuria, eclampsia, malignant nephrosclerosis—more than 3.5 Gm. per day. Albumin is the major urinary protein in all of these states, except multiple myeloma, in which varying combinations of albumin and abnormal globulins are seen.

Normal urine contains small amounts of several different sugars, but for clinical purposes it is sugar-free. In pathologic states the most frequent urinary sugar is glucose. The common mechanism is hyperglycemia with a filtered load (plasma concentration times glomerular filtration rate) in excess of the maximal reabsorption capacity. The term "renal threshold" is commonly used with the implication that there is a particular concentration of blood glucose above which it "spills" into the urine. The concept is an oversimplification and may actually hinder an understanding of the presence or absence of glycosuria in any given case. Two objections may be cited. The "threshold" commonly referred to is in terms of venous blood concentration, whereas the glomeruli filter arterial blood and the arteriovenous difference for glucose may be considerable. Second, the actual determinant of glucose escape into the urine is the ratio of filtered load to reabsorptive capacity. This involves 3 variables. They are arterial blood glucose concentration, glomerular filtration rate, and maximum reabsorptive capacity for glucose. Thus, glucose may appear or fail to appear in the urine at any level of venous blood concentration within reasonable limits. A common example is the absence of glycosuria when filtration rate is low (and blood sugar is high) in the diabetic patient with Kimmelstiel-Wilson's disease, pyelonephritis, nephrosclerosis, or all 3. With congenital absence or impairment of the tubular reabsorptive mechanism for glucose (renal glycosuria), glycosuria occurs with normal blood glucose concentrations.

Reabsorptive mechanisms for other sugars are quite limited (e.g., galactose, pentose). Their appearance in the blood and glomerular filtrate in various metabolic disorders quickly leads to their presence in the urine. With modern laboratory reagents it is a simple matter to identify a reducing sugar in the urine as glucose or one of the other sugars. For example, Clinitest tablets will react with all reducing sugars found in the urine, whereas Tes-Tape is specific for glucose.

The hydrogen-ion carrying capacity of the urine is vital to the defense of body fluid pH. This capacity is a function of the concentration of buffer salts (phosphate), the rate of formation and release of NH_3 ($NH_3 + H = NH_4$), and the maximum possible blood to filtrate gradient for free hydrogen ion, roughly 1 to 1000.

Urine pH varies from approximately 4.0 to 8.0, with most values in the 5.0 to 7.0 range. A persistently alkaline urine in an adult is abnormal and demands explanation. The possibilities include ingestion of absorbable alkali, infection with a urea-splitting organism (formation of ammonia), congenital inability to acidify the urine (tubular acidosis), obligatory potassium excretion in the face of a body deficit of potassium (primary hyperaldosteronism), and the administration of a carbonic anhydrase inhibitor. Acid urine may be seen in the presence of the severe extracellular alkalosis produced by vomiting. Here, the deficits of sodium and potassium act to insure a high rate of excretion of hydrogen, first because sodium reabsorption (in exchange for hydrogen) is occurring maximally, and, second, because there is lack of available potassium to compete with hydrogen ion for excretion.

THE RESPONSE OF TOLBUTAMIDE-TREATED PATIENTS TO THE STRESS OF SURGERY

JOHN J. CANARY, M.D.
Assistant Professor of Medicine
ROBERT STOFFER, M.D.*
DeWITT E. DeLAWTER, M.D.
Clinical Assistant Professor of Medicine
JAMES M. MOSS, M.D.
Clinical Associate Professor of Medicine
GEORGETOWN UNIVERSITY SCHOOL OF MEDICINE

OVER 350,000 diabetic patients are now using tolbutamide (Orinase) as their primary method of regulating blood sugar level, a fact which requires thorough knowledge of the indications, complications and limitations of the use of this drug. The extensive literature available concerning the chemistry, pharmacology, physiology and toxicity of tolbutamide renders review of those aspects redundant here. Reference to the papers by Williams,[1] O'Donovan,[2] Best,[3] Levine and Duncan,[4] and Loubatières[5, 6] will afford a good general knowledge of these aspects of the compound, and the bibliographies appended to these reports will serve for those with greater curiosity about specific points. Clinical experience with the drug, tolbutamide, has indicated that its principal value lies in the therapy of the group of diabetic patients with late onset of the disease.

Relatively few contraindications to the use of tolbutamide exist, and only a few situations render elective termination of its administration desirable. One situation in which this course of action finds unequivocal agreement is in the diabetic patient who develops an infectious process, since patients previously responsive to tolbutamide will frequently lose this responsiveness during the course of, and, on occasion, for some time following an infectious disease. The statement has been made by several reviewers, and by the Upjohn Company in its advertisements, that during times of stress tolbutamide therapy should be discontinued and insulin substituted, even in patients previously well regulated with tolbutamide. Surgical stress is frequently cited as an example of this situation. It is in the older diabetic group with the late onset type of diabetes that problems requiring surgical intervention frequently occur.

The problems of the diabetic patient in the surgical and postsurgical period are many. A major one is the narrow gap which separates hypoglycemia with attendant ketosis due to carbohydrate starvation and hyperglycemia with ketosis due to inadequate insulin replacement. Insulin therapy in this situation needs close supervision, frequent reëvaluation, and equally frequent alteration. The evidence presented in this report indicates that patients responsive to tolbutamide may undergo major surgery without loss of diabetic control and without the hazards of ketosis. This permits a much smoother pattern of regulation during both the period of surgery and the postsurgical period and makes much easier the task of both the physician and the patient. It also eliminates the problem of preliminary re-regulation of the diabetic state with insulin prior to surgery.

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* Formerly Assistant Resident in Medicine, Georgetown University Hospital, Washington, D. C.; presently on the staff of the Halstead Clinic, Halstead, Kansas.

METHODS AND MATERIAL

Thirteen patients with late onset type of diabetes ranging in age from 41 to 73 years were the subjects of this study. All were hospitalized for elective surgical procedures. Tolbutamide therapy was begun shortly before surgery in 5, while 8 had been treated for varying periods of time on an outpatient basis. Blood sugars were determined by the Folin-Wu technic, urines were tested for sugar by the Clinitest tablet method and for acetone by the Acetest tablets. All patients received intravenous glucose for at least 1 postoperative day.

Early in the study the patients were observed very closely during the postoperative period, and frequent determinations of blood sugars were made. Urines were tested on an hourly or 2-hourly basis. Following completion of the first 6 studies we became more confident about the response of patients managed in this way. Urines were then tested for sugar and acetone every 6 hours; blood sugar levels were measured at 8 a.m. and 3 p.m. on the day preceding, on the day of surgery, and for the next 3 or 4 days, following which fasting sugars were obtained daily with only the occasional performance of a mid-afternoon blood sugar determination.

RESULTS

These 13 patients tolerated the stress of anesthesia and a variety of surgical procedures without loss of diabetic control. Hyperglycemia occurred during the infusions of glucose, but ketonuria and ketonemia were not observed. Fasting blood-sugar levels were within adequate range even though some of the patients were unable to take their medication for some 3 to 4 days following the surgical procedure. Two patients received regular insulin on the day of surgery. These small doses, i.e., 10 and 20 units of regular insulin, were not considered to have significantly altered the subsequent course in these patients.

In this group the postoperative diagnoses, the duration of tolbutamide therapy, the response to surgery, and the doses of insulin administered are shown in table 1. The response of 1 of the patients is shown in detail in figure 1.

TABLE 1

Response to Surgery of Patients Treated with Tolbutamide

Case	Sex	Age	Duration of Tolbutamide	Control	Operation	Insulin on Day of Surgery	Control in Surgical Period
1	M	59	10 days	Good	Cholecystectomy	20 u.	Fair
2	F	72	5 days	Good	Colon resection	10 u.	Good
3	F	52	7 days	Good	Radical mastectomy		Good
4	F	62	10 days	Good	Radical mastectomy		Good
5	F	52	21 days	Good	Thoracic skin graft		Good
6	M	61	6 months	Good	Bladder resection		Good
7	M	49	4 months	Good	Transurethral resection		Good
8	F	61	2 months	Good	Bone curettage		Good
9	M	41	8 months	Fair	Lumbar sympathectomy		Good
10	M	49	4 months	Good	Herniorrhaphy		Good
11	F	67	11 months	Good	Radical mastectomy		Good
12	F	73	27 months	Good	Hysterectomy		Good
13	F	71	20 months	Good	Excision breast cyst		Good

This patient was a 72-year-old colored woman with diabetes of a year's duration. The chief complaint was obstipation with abdominal distention and vomiting for 3 days. She had noted ribbon stools for some $2\frac{1}{2}$ months prior to admission. Physical signs were consistent with intestinal obstruction, and sigmoidoscopy revealed an annular lesion in the lower sigmoid, the barium enema demonstrating almost complete obstruction of the lower

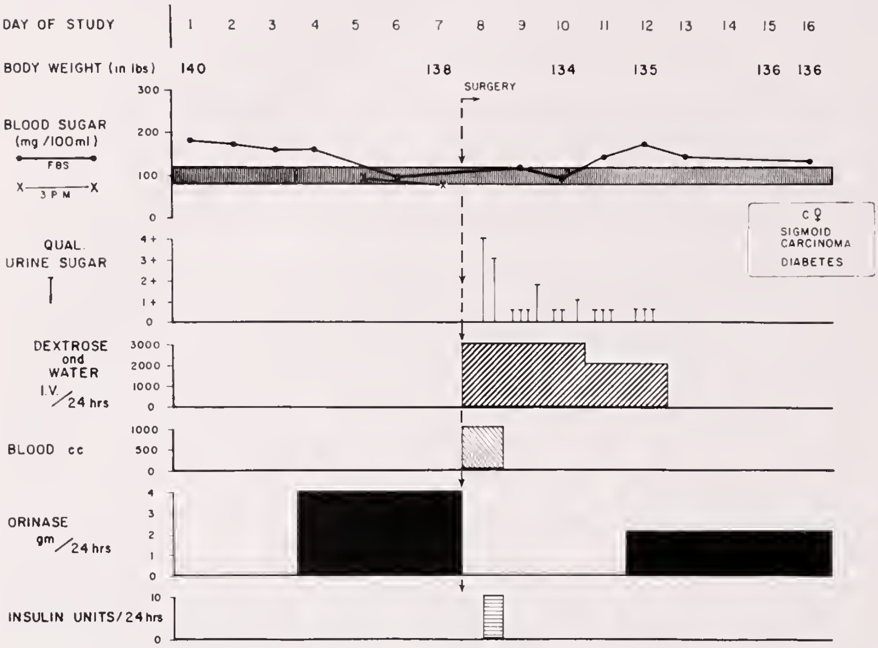

Fig. 1. Response of a patient undergoing resection of the sigmoid treated with tolbutamide.

sigmoid colon. She was mildly dehydrated, with a hematocrit of 47 per cent and a hemoglobin of 16 Gm. per 100 ml. of blood. Her blood sugar was 273 mg. per 100 ml., and electrolytes were within normal limits.

Fluid replacement with intravenous dextrose and water was begun. The first fasting blood sugar was 310 mg. per 100 ml., with 2+ glycosuria and no ketonuria. A liquid diet was then utilized for maintenance alimentation. Fasting blood sugars ranged from 160 to 180 mg. per 100 ml. Tolbutamide was begun on the sixth hospital day (fourth day of study) in a dose of 4 Gm. per day, a dose selected in an attempt to bring the patient rapidly under control and also to take advantage of the relatively slow rate of excretion of tolbutamide, thus permitting a significant blood level of the drug to be maintained for some days following the surgery. On the second day of treatment a mid-afternoon blood sugar was 96 mg. per 100 ml., and a 3 p.m. blood sugar on the day preceding surgery was 86 mg. per 100 ml. without symptoms of hypoglycemia.

Surgery was uneventful, and an end-to-end anastomosis was performed after resection of a carcinomatous lesion without obvious metastases. Ten units of regular insulin was administered on the afternoon of surgery because of 4+ glycosuria without ketonuria. No tolbutamide was administered until the fifth postoperative day. Despite this, and despite administration of 3,000 ml. of 5 per cent dextrose and water for the first 3 days and 2,000 ml. for the next 2 days, her fasting blood sugar on the second postoperative day was 120 mg. per 100 ml., and on the third postoperative day it was 94 mg. per 100 ml. Glycosuria occurred only in trace amounts on these days. Tolbutamide was resumed on the fifth postoperative day in a dose of 2 Gm. per day. On that day the fasting blood sugar had risen to 170 mg. per 100 ml. Over the next 4 days fasting blood sugar levels fell to 124 mg. per 100 ml. Glycosuria was absent.

The patient was discharged and has been followed for some 18 months without evidence of recurrence of her disease. Three months after discharge it was possible to discontinue tolbutamide and to maintain adequate control on diet alone.

The hospital course of a 61-year-old white man with diabetes diagnosed 6 months prior to his admission for surgery is shown in figure 2. There was a long history of recurrent cystitis. A median-bar type of prostatic hypertrophy and a diverticulum of the bladder were discovered at cystoscopy. The patient's diabetes had been well controlled with tolbutamide for the 6 months prior to his admission. It had been possible to reduce tolbutamide to a dose of 0.5 Gm. per day with continuing good control in the month prior to admission. An extra 0.5 Gm. was given on the day prior to surgery, no tolbutamide was administered on the day of surgery, and tolbutamide treatment was reinstituted on the first postoperative day. On the day of surgery 2,000 c.c. of 5 per cent dextrose and water was administered. Fasting blood sugar, prior to surgery, was 123 mg. per 100 ml., and on the afternoon of the day of surgery the blood sugar was 184 mg. per 100 ml.

The fasting blood sugar on the first postoperative day was 126 mg. per 100 ml. and on the second and third postoperative days, 122 and 118 mg. per 100 ml., respectively. Slight glycosuria was observed on a few occasions following surgery, without evidence of ketonuria or ketonemia. The patient resumed his usual diet pattern on the fourth postoperative day; the fasting blood sugar on that day was 121 mg. per 100 ml., and a mid-afternoon blood sugar on that day was 130 mg. per 100 ml., while on the sixth postoperative day the afternoon blood sugar was 129 mg. per 100 ml.

It is of interest that in this patient the recurrent lower urinary tract infections apparently did not alter his tolbutamide tolerance.

Discussion

We are aware of only 2 other references regarding the response to surgery of patients treated with tolbutamide. Two patients were reported by Sugar[7] as part of a larger series of treated patients, 1 of whom underwent a panhysterectomy with a radical node-resection for cervical carcinoma, and the other a cesarean section. Three patients undergoing major and minor surgery were reported by Knox et al[8] with no change in diabetic control. Two of these patients were given supplemental insulin to cover intravenous glucose given on the day of surgery. In both reports the diabetes was well controlled, and no problems were encountered.

It seems clear that discontinuation of tolbutamide and resumption or commencement of insulin therapy in preparation for major surgery in a patient who is demonstrated to be tolbutamide-sensitive is unnecessary. It is our belief that this general rule will apply to the majority of these patients undergoing surgery without infectious complications. We believe that no form of treatment can substitute for frequent observation of the patient by the physician in the postoperative period. We would not recommend that a patient with an infectious disease coming to elective surgery be treated with tolbutamide alone. This is particularly true if the control of the diabetes is at all poor. If the tolbutamide response is not completely satisfactory, substitution of small doses of insulin, given on the basis of blood-sugar levels rather than on urine tests alone, would be the wisest course of action. Urinary sugar levels are frequently an inadequate estimate of blood sugar concentration in older patients, particularly those with impairment of the glomerular filtration rate. Insulin therapy should be rapidly instituted in the postoperative period if the tolbutamide-treated patient begins to show significant hyperglycemia, glycosuria, and particularly ketonuria despite adequate caloric replacement.

The ability to bring such diabetic patients to surgery without the necessity of terminating one type of therapy and substituting another should save important hospital time and reduce the expense of any elective surgical procedure by a considerable degree for such patients.

(*Continued on page 670*)

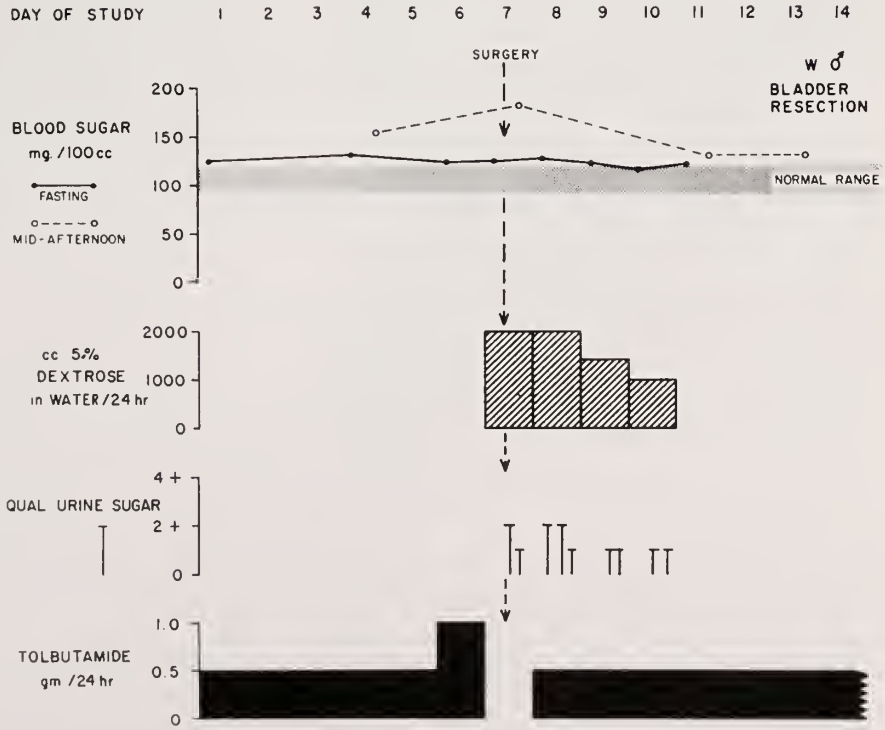

FIG. 2. Response of a patient treated with tolbutamide who had a bladder resection.

UNUSUAL MANIFESTATIONS OF MYXEDEMA

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IT IS UNFORTUNATE that myxedema may go so long undiagnosed and that thyroid therapy is so often administered needlessly. Myxedema may be so insidious in onset and its manifestations so protean and bizarre that the diagnosis is often not suspected and the patient consigned to a life of invalidism. This is particularly apt to occur when some unusual sign or symptom not commonly associated with myxedema dominates the clinical picture. Indeed, manifestations may involve any body system and cause the patient to seek aid from almost any medical specialty. Failure to recognize the underlying disease is particularly tragic, since response to thyroid therapy is so dramatic and gratifying to patient and physician, and the patient may be changed from what Osler called "a poor, feeble-minded, toad-like caricature of humanity" into a happy, productive person. The following cases will serve to illustrate some of the more unusual manifestations which may occur in myxedema.

Illustrative Cases

Case 1. A 36-year-old woman was brought to the admitting office of the District of Columbia General Hospital because of visual and auditory hallucinations. It was decided to admit her to the medical service instead of to the psychiatric service when a medical resident thought she looked myxedematous and obtained a story of radioactive iodine therapy for typical hyperthyroidism 9 months previously. Following radioactive iodine therapy the patient had done well for 3 months, when she gradually developed paresthesias and swelling of her hands and feet, a puffy face, dry unruly hair, and progressive slowing of physical and mental activity until she was no longer able to care for her 4 children and home. A basal metabolic rate was minus 29 per cent, and she was started on ½ grain of desiccated thyroid daily, which she had taken sporadically and discontinued about 3 weeks before admission. During the month prior to admission she had become more reclusive and fearful, refusing to leave the house unless accompanied by her husband. Several days before admission she began to experience visual and auditory hallucinations and on the day of admission was terrified by seeing a large silver horse in the sky. She feared impending death and was brought, weeping and praying, to the hospital.

On admission to the medical ward she was agitated and was praying and singing hymns. Her eyes were puffy and red from weeping, and her skin was cool, dry, and pale. The heart, lungs and abdomen were normal. When she was relaxed and quiet her deep tendon reflexes demonstrated the typical slow return phase or pseudomyotonic reflex so classically seen in myxedema.

The hematocrit was 39, and urinanalyses showed 0 to 2+ proteinuria and pyuria which cleared on sulfadiazine therapy. The clinical impression of myxedema was confirmed by a thyroidal radioactive iodine uptake of 4.6 per cent in 24 hours and a total blood cholesterol of 680 mg. per 100 ml. X-ray films of the chest and skull were normal.

The emotional state varied from depressed, apathetic periods of melancholy to episodes of loud praying and singing. At times restraints were necessary. The patient became suspicious of ward personnel, imagined that passing airplanes and the hospital page system were giving her messages, and felt rejected by her family and the hospital staff. Her affect was flat and blunted.

Because of her psychosis and because she was young and without heart disease, the patient was begun on l-triiodothyronine, and she returned to a euthyroid state rapidly over a period of several weeks. She was subsequently transferred to therapy with desiccated thyroid. There was complete clearing of her psychosis, and she returned to her husband and family and leads a full and active life. Figure 1 shows the patient on hospital admission and figure 2 after treatment with desiccated thyroid.

Comment. This patient might well have been committed to a mental institution where her underlying myxedema might never have been suspected and her dramatic recovery never achieved. During periods of agitation and hallucinations she was far from the usual dull, apathetic, drowsy hypothyroid patient. To a physician unfamiliar with psychosis as a manifestation of myxedema, the diagnosis would have to be suspected from the voice, facial appearance, and history. Even the puffy eyes could have been attributed to the patient's frequent crying spells, and the classic pseudomyotonic reflexes, so helpful in establishing the diagnosis of myxedema, were impossible to obtain during periods of agitation. It is imperative to consider the diagnosis of underlying myxedema in any psychotic patient, since years of incapacity and unhappiness at home or in an institution and disastrous effects upon home and family life may be avoided.

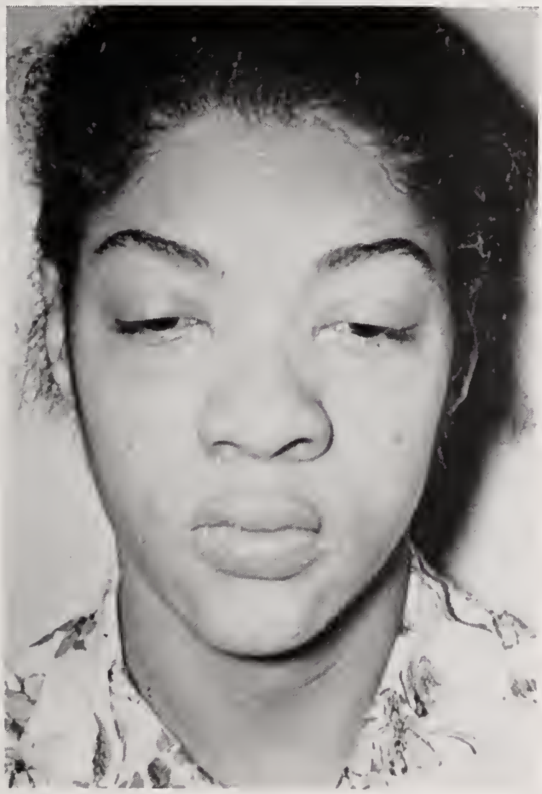

Fig. 1. Case 1. Weeping and hallucinating on hospital admission.

Severe mental aberrations, including psychosis, have been recognized as a part of myxedema since reports by Inglis[1] and Savage[2] in 1880. The special committee nominated by the Clinical Society of London for the study of myxedema in 1883[3] noted that "delusions and hallucinations occur in nearly one-half of the cases, mainly where the disease is far advanced. Insanity, as a complication, is noted in about the same proportion as delusions and hallucinations, and takes the form of acute or chronic mania, dementia or melancholia with marked predominance of suspicion and self-accusation."

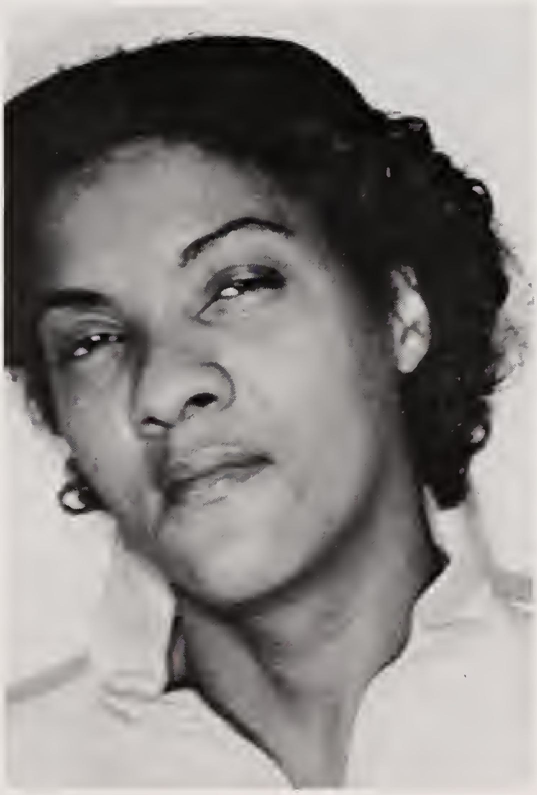

Fig. 2. Case 1. After treatment.

Since the original report by the Myxedema Commission in 1888 sporadic case reports of myxedema psychosis have appeared in the literature. Stoll,[4] in reporting 6 cases, was impressed with the irritability, untruthfulness, suspicion, delusions, retarded cerebration, inability to concentrate, introversion, and failing memory these patients demonstrated.

Noteworthy among recent reports is that by Asher[5] of 14 cases seen over a 4-year period. Ten of these patients were admitted to a mental institution, 1 was referred to a neurosurgeon for a possible brain tumor, and 3 were admitted to the medical wards with other diagnoses. In none of these patients was the correct diagnosis suspected by the physician referring the patient to the hospital. On thyroid therapy 9 of the patients completely recovered from psychosis and 2 were improved. In only 1 was the condition unchanged. It is well to reiterate Asher's statement that "myxedema is one of the most important, one of the least known, and one of the most frequently missed causes of organic psychosis."

Case 2. A 74-year-old woman was admitted to the District of Columbia General Hospital for erysipelas of the face. She had no other complaints, but she appeared severely myxedematous. Careful questioning revealed thinning scalp hair and eyebrows, moderate weight gain, fatigue and increasing weakness, cold intolerance and decreased sweating for 5 to 6 years. Three to 4 years prior to admission she was given digitalis for orthopnea, dyspnea and ankle edema and had no further recurrence of these symptoms. For several years she had spent most of her time asleep in a chair by the window. Constipation became progressively more severe, and she had suffered several episodes of marked abdominal swelling, obstipation and abdominal pain. Deafness and paresthesias had been progressive for 7 months prior to admission.

Physical examination showed a sleepy, apathetic woman who required assistance in walking and could hear only shouted speech and spent all of her time asleep in bed or in a chair. Her voice was hoarse and her skin dry and puffy. The lungs were clear, and the heart was enlarged with a regular rhythm of 60 and a grade 4 murmur of aortic stenosis. A large incarcerated ventral hernia and a small right inguinal hernia were present. Bowel sounds were normal. The right arm was amputated at the shoulder, and the deep tendon reflexes were typically myxedematous.

Myxedema was confirmed by a radioactive iodine uptake of 5 per cent in 24 hours, a protein-bound iodine of 1.1 micrograms per 100 ml., and a total blood cholesterol of 258 mg. per 100 ml. The hematocrit was 42, and laboratory studies were otherwise within normal limits. Pure tone air and bone thresholds were obtained as well as speech reception and discrimination thresholds. These indicated a severe bilateral nerve-type deafness, more severe in the right ear than the left.

While at the National Institute for Arthritis and Metabolic Disease for further studies she developed marked abdominal distention with enlargement of the ventral hernia, tinkling bowel sounds, and obstruction to the flow of a barium enema at the mouth of the ventral hernia. She was begun immediately on L-triiodothyronine, and with conservative management the obstruction was relieved. Euthyroid on desiccated thyroid, 0.13 Gm. (grains 2) daily, she has recovered remarkably. Her family, formerly resigned to placing the patient in a nursing home, have taken her home where she ambulates alone, hears ordinary conversation, and is leading a happy, active life for a patient her age.

Comment. This patient presented the classical picture of far-advanced myxedema. Too unsteady to ambulate alone, she remained in bed where she was too deaf to hear what was going on around her and so drowsy she passed almost all her time asleep. Her subsequent restoration to a happy, alert life at home by thyroid treatment has amazed and delighted her family.

Several features of her case are worthy of comment. Deafness is a common manifestation of myxedema, and was found in more than one-half the cases studied by the Myxedema Commission of the Clinical Society of London in 1883.[3] St. Lager, quoted by Lisser,[6] reported that of 4,000 deaf mutes in Switzerland 80 per cent were cretins. More recently the deafness of myxedema has been characterized as perceptive in type,[7] although conductive deafness related to thickening of the tympanic membrane, obstruction of eustachian tube, or changes in the ossicles has been described,[8] and mixed types occur. Restoration of hearing by thyroid treatment may be dramatic, as recorded in this case.

Although the episodes of abdominal distention and obstipation manifested by this patient suggest intestinal obstruction due to her ventral hernia, it must be remembered that patients may develop a picture resembling mechanical intestinal obstruction on the basis of myxedema alone. Constipation is recognized as a frequent symptom in myxedema with bowel movements at weekly intervals or longer, and this may progress to complete obstipation with enormous abdominal distention, absent bowel sounds, and air and fluid levels in the bowel on X-ray examination. Bastenie[9] has reported a number of cases of paralytic ileus secondary to severe hypothyroidism in which mechanical obstruction, tumor or cyst were suspected until myxedema was recognized. At operation or at autopsy in several cases only an elongated, dilated colon with a thick, white, inelastic wall was found to explain the obstruction. It is important to consider myxedema in the differential diagnosis of intestinal obstruction since myxedema patients tolerate surgery poorly and unnecessary intervention is dangerous.

Case 3. A 53-year-old woman was admitted to the District of Columbia General Hospital complaining of abdominal swelling for 1½ years which became severe 2 months prior to admission with the development of lower abdominal tightness and discomfort on eating, dyspnea on exertion, and fatigue. Physical examination revealed a thin, apathetic woman with prominent bags beneath her eyes and a hoarse voice. She had moderate cardiac enlargement and a systolic apical murmur with no evidence of heart failure. Abdominal examination showed a distended, tense abdomen with fluid wave and shifting dullness without palpable liver or spleen. Pelvic examination was negative.

The patient was thoroughly studied for the etiology of her ascites. The hematocrit was 32 with a normochromic, normocytic anemia. Urinalysis and blood urea nitrogen were normal. Except for a total protein of 9.0 Gm. per 100 ml. with 4.1 Gm. of albumin, liver function tests were normal with 2 per cent bromsulfalein retention in 45 minutes. The ascitic fluid was removed twice, 1,500 ml. being removed on the first occasion. The specific gravity of the fluid was 1.022, the total protein was 6.5 Gm. per 100 ml., and the white blood cell count was 2,700 per cu. mm. with 90 per cent lymphocytes, culture and smear for tubercle bacilli were negative, and a cell block was negative for malignant cells. A P.P.D. 1½ was 2+, and sputum and gastric examinations were negative for tubercle bacilli on smear and culture. A complete gastrointestinal X-ray series showed only tubular deformity of the descending and sigmoid colon, and a chest X-ray film showed a small left pleural effusion which cleared spontaneously in the hospital. Considering the possibility of malignant or tuberculous peritoneal involvement, the patient was advised to have an exploratory laparotomy, which she refused.

On seeing the patient one observer was struck with her myxedematous facies, hair changes and voice. A history of cold intolerance, paresthesias, progressive hoarseness, and chronic constipation was obtained. Deep tendon reflexes were classically myxedematous. Myxedema was confirmed by a radioactive iodine uptake of 7 per cent in 24 hours, a protein-bound iodine of 0.5 micrograms per 100 ml., a BMR of minus 28, and a total blood cholesterol of 435 mg. per 100 ml. On treatment with desiccated thyroid the patient improved remarkably, and the ascites cleared and has not recurred. Figure 3 shows the patient prior to thyroid therapy.

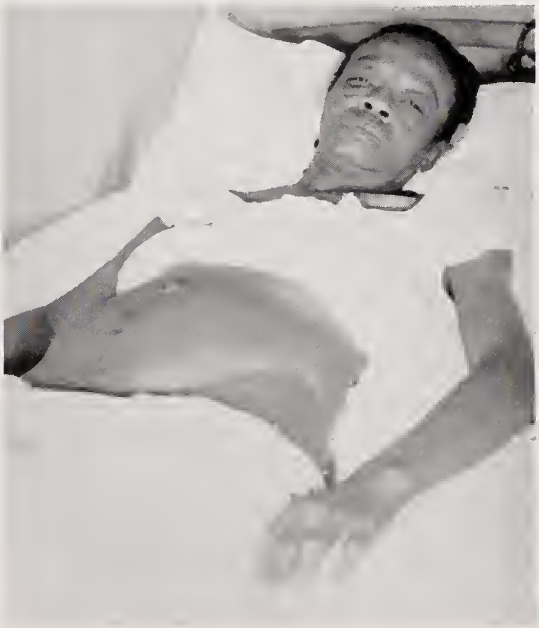

FIG. 3. Case 3. Before therapy, showing ascites.

Comment. This patient illustrates how obvious a diagnosis of myxedema becomes once it is considered, yet how easily it may be overlooked. This patient was thin and gained only about 6 pounds in the course of her myxedema. There is a common misconception that marked weight gain is a feature of myxedema, and desiccated thyroid is often given unnecessarily to obese patients for nonspecific complaints in the belief that they are "hypothyroid." Plummer,[10] in studying 200 patients with spontaneous myxedema, found an average weight gain of 10.1 lbs. over normal weight before treatment, and an average loss of 13 pounds on desiccated thyroid.

Although pericardial effusion is recognized as a not uncommon manifestation of myxedema,[11] ascites is less often seen. One of the most impressive reports of ascites due to myxedema is that by Hanssen[12] of a 59-year-old woman confined to a nursing home for 8 years because of ascites which required 157 taps yielding 1,357 liters of fluid over this period. On treatment for myxedema she improved immensely, and the ascites cleared permanently. Ascites was noted in 1 of 109 cases reported by the Myxedema Commission,[3] and scattered reports have appeared throughout the literature since then. The fluid may have a high specific gravity and protein content as noted in this patient, although most reports yield lower values, and there are no features to distinguish this fluid from ascites of other etiology.[13] Fluid in the pleural or peritoneal cavity accumulates in the absence of congestive heart failure, its exact cause is uncertain, and it disappears with thyroid therapy.

It is imperative in evaluating any myxedema suspect to establish or exclude the diagnosis by the most reliable tests commonly available—serum protein-bound iodine or thyroidal radioactive iodine uptake determinations, and if myxedema is diagnosed, to convince the patient that he must take thyroid therapy for the remainder of life.

CONCLUSIONS

Even classical myxedema may be unsuspected by the attending physician for years because of its insidious onset and protean manifestations. When some of the more unusual manifestations of myxedema dominate the clinical picture, such as those presented by these patients—psychosis, deafness, intestinal obstruction, pericardial effusion or ascites, the diagnosis may be long delayed, and the patient may be denied the dramatic recovery usually possible with the administration of thyroid therapy.

BIBLIOGRAPHY

1. Inglis, T.: Lancet, 1880, **2,** 496.
2. Savage, G. H.: J. Ment. Sc., Lond., 1879–80, **25,** 517.
3. Report of a Committee of the Clinical Society of London Nominated in 1883 to Investigate the Subject of Myxoedema. Tr. Clin. Soc. Lond., 1888, supp. vol. 21, 1.
4. Stoll, H. F.: Ann. Int. Med., 1932, **6,** 806.
5. Asher, R.: Brit. M. J., 1949, **2,** 555.
6. Lisser, H.: Ophth. Rec., Chicago, 1916, **25,** 433.
7. Howarth, A. E., and Lloyd, H. E. D.: Brit. M. J., 1956, **1,** 431.
8. Barnes, L. S.: Bull. Acad. Med., Toronto, 1947, **20,** 161.
9. Bastenie, P. A.: Lancet, 1946, **1,** 413.
10. Plummer, W. A.: Tr. Am. A. Study Goiter, 1940, p. 88.
11. Kern, R. A., Soloff, L. A., Snape, W. J., and Bello, C. T.: Am. J. M. Sc., 1949, **217,** 609.
12. Hanssen, P.: Acta med. Scandinav., 1938, supp. 90, p. 277.
13. Tracey, M. L., and Donovan, E. J.: J.A.M.A., 1951, **146,** 1511.

THE EPIDEMIOLOGY OF CORONARY DISEASE*

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EPIDEMIOLOGY is the intelligence service of medicine. Like all intelligence services it sometimes follows false leads. Frost,[1] the greatest of American epidemiologists, might have had something akin to this in mind when he wrote, "Epidemiology is something more than the total of its established facts. It includes their orderly arrangement into chains of inference which extend more or less beyond the bounds of direct observation. Such of these chains as are well and truly laid guide in investigation to the facts of the future. Those that are ill laid fetter progress."

The New Epidemiology of chronic noninfectious disease has 3 aims according to Reid[2]: to sight the emergence of fresh threats to the public health, to look for clues about their origin in the mass behavior of the specific disease, and to test the consistency of theories of disease causation derived from laboratory research and clinical observation.

The importance of this expanded concept of the epidemiologic approach to human disease is becoming apparent. Paul[3] has recently defined epidemiology as a concept that deals with "the circumstances under which diseases occur, where diseases tend to flourish, and where they do not. Such circumstances may be microbiological or toxicological; they may be based on genetic, social and environmental factors; even religious and political factors may come under scrutiny, providing they are found to have some bearing on disease prevalence."

This listing of epidemiologic observations on coronary artery disease in man is intended more as an indication of the scope of the technic than as an adequate review of population studies of ischemic heart disease. The reader who wishes to pursue the subject in detail will find a number of excellent reviews.[4, 5]

Definition. Ischemic heart disease includes the separate processes of atherosclerosis and coronary thrombosis. Noting the not infrequent occurrence of the occlusive event in the absence of significant intimal disease, Groen[5] comments, "The pathogenesis of the occlusion (the 'thrombosis') may result from processes other than lipid infiltration of the intima and endothelial proliferation."

Vital statistics. There seems to be an absolute increase in mortality due to coronary disease over the recent years in men of the same age groups in the United States and England. The death rate from coronary disease in males of age 50–54 in the U. S. is, at 450 per 1,000, nearly double the corresponding rate for England and Wales of 229. This difference may reflect a different terminology of cardiac diagnosis, since it is well known that other forms of cardiac disease, particularly cardiopulmonary, have a reversed incidence in the 2 countries. On the other hand, the difference may be real, and this is under current investigation.

There is a distinct preponderance of the disease in the male. The male: female ratio of deaths due to coronary disease (ages 45–54) varies between 1.4 in Japan and 4.4 in Finland. The increase of the disease in the American male below the age of 40 has been reported by Yater[6] and its pathogenesis discussed by Enos[7] in a classical series of observations on American soldiers killed in Korea.

The repeated observations that ischemic heart disease is more prevalent in the more developed countries and more related to standard of living than to race or region has led to the use of such terminology as coronary disease being a "maladaptation syndrome" or a "disease of civilization."

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Heredity. It is a clinical axiom that some coronary patients have a familial predisposition to their disease. Like many clinical axioms it is not supported by much in the way of objective evidence. Adlersberg[8] has concluded that a dominant hereditary "idiopathic hypercholesterolemia" predisposes to the development of coronary artery disease in some patients. What has not been established for want of a clinical test is whether a familial abnormality is responsible for any significant amount of coronary disease when the serum lipid pattern is grossly normal.

An interesting observation in both man and experimental animal is the considerable individual resistance to atheromatosis despite elevated serum lipids and a high fat intake. Wilkinson[9] has postulated a heterozygotic resistance, but it must be stated that the genetic pattern of coronary disease in man has yet to be discovered. There is an unlimited field for research here.

Diet. The study of diet as a factor in coronary heart disease has centered on fat intake and serum cholesterol. While it is impossible to relate the level of cholesterol in an individual case to the possibility of coronary development there have been repeated observations of increased average levels of cholesterol in groups of coronary patients compared to the noncoronary controls.

It has also been noted that diseases with abnormal lipid metabolism (diabetes, familial xanthomatosis, essential lipemia) are associated with a significantly increased incidence of coronary atheromatosis and occlusion.

Groen[5] quotes Keys to the effect that the average cholesterol level among healthy individuals has increased considerably in the past 40 years in Western countries. He raises the question as to whether the "low" values of 150 mg. per cent in the Eastern population groups are really the only normal values for cholesterol. The lack of standardization of cholesterol determinations is a deterrent to present analysis of this provocative suggestion.

There are many exceptions to the rule that a high proportion of fat in the national diet is associated with a high mortality from ischemic heart disease, but the weight of evidence overwhelmingly relates an excess of dietary fat in susceptible individuals to the development of coronary disease.

Alcohol and tobacco. The effects of alcohol on the cardiovascular system can be deduced from mortality rates of the inn- and hotel-keepers in England and the wine-growers of France. While there is a considerably higher rate of mortality from cerebrovascular accidents and nephritis, there is relatively little effect on coronary disease in these groups where rather vigorous use of spirit is known to be habitual.

The use of tobacco has been more extensively studied in the epidemiologic evaluation of lung cancer. Smoking habits by type and amount of tobacco smoked were elicited by questionnaire from large groups of middle-aged men and the subsequent mortality experience of the men determined by follow-up. The results of the American survey (table 1) would indicate a definite association, particularly up to age 65, between the number of cigarettes smoked and the risk of dying from coronary thrombosis.

TABLE 1

Smoking Habits and Coronary Disease Death Rates per 100,000 Population in the United States of America[10]

Amount Smoked per Day (Packs)	Age Groups			
	50–54	55–59	60–64	65–69
0	349	689	886	2,084
<½	589	769	1,345	2,171
½+	741	1,284	1,950	2,712
1+	856	1,477	1,772	2,329

Stress. The increased mortality of general physicians over specialists and the striking increase of physicians in general over all males of the same age in Britain (368 per cent prior to the National Health Service) has been thought by some to be evidence of the "strain of medical practice." It might also be due to other factors. Another occupational group, the executive class, has a similar increased risk of death from coronary disease. The German writers have called this 'manager-*krankheit*' and have indicated the interlocking hazards of being a successful manager.

They point out that such success may be an expression of that driving, restless personality which leads many into positions of responsibility and power and exposes them to such incidental cardiac hazards as overeating and inactivity. So while there is no good evidence of psychologic stress per se being the cause of group differences in coronary mortality, there is mounting evidence that suppressed anxieties in exposed groups may precipitate ischemic episodes.[11]

The psychophysiologic aspects of coronary disease are only now coming under controlled investigation. Several investigators have observed acute elevations of serum lipids in young males under such stresses as emotionally charged interviews and medical school examinations.

Physical activity. Morris has made a series of contributions to the study of the role of physical activity as a modifying influence in coronary heart disease. His recent study[12] of 5,000 unselected necropsies of men aged 45–70 related the degree of coronary disease to the last stated occupation, considered in terms of physical activity, and found that men in physically active jobs had less coronary heart disease during middle age, that what disease they had was less severe, and that they developed it later than men in physically inactive jobs. The author concluded that habitual physical activity modified the myocardial effects of coronary disease but that other causes are operative for the occlusive aspects of the syndrome.

Perspectives. Morris[13] would have it that the most important prerequisite for continued advance in an understanding of ischemic heart disease is collaboration between laboratory scientists, clinicians who know about heart disease, and epidemiologists with training in group studies. Future understanding of coronary disease might also come from those genetic, psychophysiologic, sociologic, and anthropologic studies which can provide meaningful, perhaps critical, data to the analysis of the varying occurrence of what has been called "today's most urgent problem in public health."

BIBLIOGRAPHY

1. Frost, W. H.: Introduction, in Snow, J.: On Cholera. New York: Commonwealth Fund, 1936.
2. Reid, D. D.: Practitioner, 1958, **180,** 184.
3. Paul, J.: Clinical Epidemiology. Chicago: Univ. Chicago Press, 1958.
4. Miller, D. C., Stare, F. J., White, P. D., and Gordon, J. E.: Am. J. M. Sc., 1956, **232,** 329.
5. Groen, J., and Heide, R. M. Van Der: Medicine, 1959, **38,** 1.
6. Yater, W. M., Welsh, P. P., Stapleton, J. F., and Clark, M. L.: Ann. Int. Med., 1951, **34,** 352.
7. Enos, W. F., Jr., Beyer, J. C., and Holmes, R. H.: J.A.M.A., 1955, **158,** 912.
8. Adlersberg, D.: Am. J. Med., 1951, **11,** 600.
9. Wilkinson, C. F., Jr.: Bull. New York Acad. Med., 1950, **26,** 670.
10. Hammond, E. C., and Horn, D.: J.A.M.A., 1954, **155,** 1316.
11. Weiss, E., and others: A.M.A. Arch. Int. Med., 1957, **99,** 628.
12. Morris, J. N., and Crawford, M. D.: Brit. M. J., 1958, **2,** 1485.
13. Morris, J. N.: Circulation, 1958, **17,** 321.

THE SIGNIFICANCE OF CALCIFICATION IN THE REGION OF THE HEART AND GREAT VESSELS

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CALCIFICATION of the heart or great vessels represents a nonspecific reaction to injury, inflammatory, traumatic or degenerative. Occasionally such calcification may be extensive enough to cast a radiopaque shadow at the time of X-ray or fluoroscopic examination of the chest.

Although the calcification itself does not have etiologic specificity, identification of its location allows one to make a precise anatomic diagnosis. Since calcification of certain portions of the heart may be characteristic of a given disease, one may at times make a definitive etiologic diagnosis based on knowledge of the structure that is calcified.

AORTIC KNOB

Calcification in the region of the transverse or descending aorta is a common finding seen on chest X-ray films of persons over the age of 40 (figure 1). This calcification is secondary to atherosclerosis of the aorta. Calcium is best demonstrated in the knob, because the curvature of the arch is such that this portion of the transverse aorta is seen "on end" in the conventional posteroanterior projection. As a result, the thin sheet of calcium lining the wall is perpendicular to the X-rays and casts a dense shadow. Although this finding indicates the presence of severe aortic atherosclerosis,[1] its usefulness as a clinical sign is limited by the fact that the correlation between atherosclerotic involvement of the aorta and that of the vital coronary, cerebral, or renal vessels is poor.

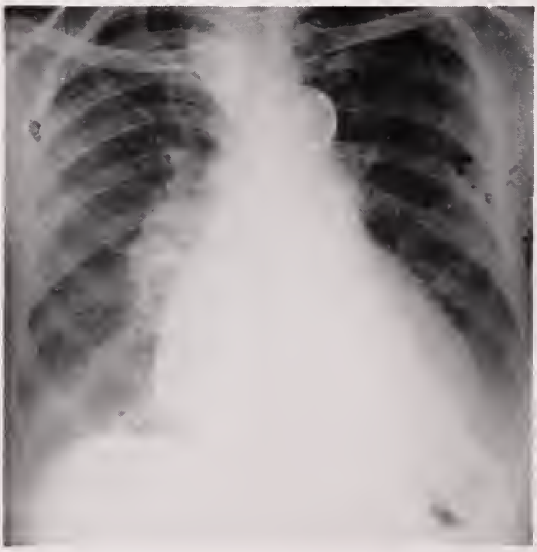

FIG. 1. Calcification of knob of aorta in a 55-year-old colored woman with hypertensive cardiovascular disease. This finding signifies marked atherosclerosis of the aorta but does not necessarily imply coronary, cerebral or renal atherosclerosis.

ASCENDING AORTA

As opposed to calcification of the knob and descending portion of the aorta, calcification of the ascending limb as seen on X-ray films is a sign of considerable specificity and represents the end-result of the ravages of luetic aortitis (figure 2). In our series of 80 patients with this finding over 90 per cent were proven to have had syphilis.[2] The diagnosis of syphilitic aortitis is a difficult one and except for the above sign cannot be made without the presence of a complication such as coronary ostial involvement resulting in angina pectoris or semilunar valve involvement with signs of aortic regurgitation or aneurysm. Unfortunately this sign is a late one, usually occurring in the 50- to 70-year age group, although we have occasionally seen it in patients in their late thirties.

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† Sponsored by the Washington Heart Association.

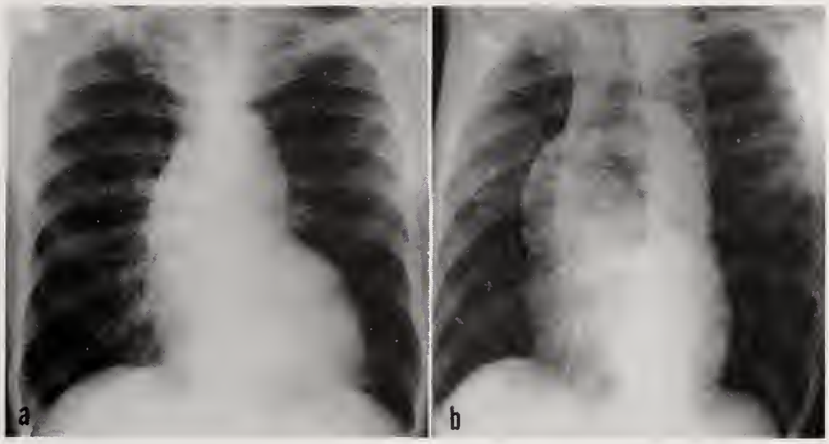

Fig. 2, a and b. Calcification of lateral wall of ascending aorta characteristic of syphilitic aortitis in a 38-year-old white man with luetic aortic insufficiency.

This calcification appears at a late age, because it represents atherosclerosis involving an area of the aorta which is usually not involved severely enough to cast a shadow by X-rays unless degenerative atherosclerotic changes have been accelerated and intensified by luetic involvement of this portion of the aortic wall.

Dissecting aneurysm is quite uncommon in patients who have luetic aortitis. Although the reason for this is not completely understood, apparently the fibrotic and sclerotic changes taking place in the media as a result of lues render hematoma formation and dissection in this layer less likely to occur. The demonstration of calcium in the ascending aorta of a patient who has had pain and shows widening of the aortic shadow would point toward luetic aneurysm rather than a dissecting aneurysm.

Pure aortic insufficiency is usually either rheumatic or luetic. The presence of aortic insufficiency accompanied by calcification of the ascending aorta indicates that the process is syphilitic. This latter sign is not an absolute one, since a patient may have simultaneous luetic and rheumatic involvement of the aortic valve. We have seen 4 such cases in the last 4 years.

Aortic Sinus

Aneurysms of the aortic sinuses (of Valsalva) may be of congenital or acquired origin.[3] The congenital form occurs secondary to a structural defect in the wall of the aortic root. The acquired variety is due to bacterial endocarditis, syphilis, or trauma.

When such an aneurysm ruptures into the right side of the heart, as it is prone to do, the classical signs of aortic insufficiency combined with a left to right shunt make a clinical diagnosis possible on physical examination. On the other hand, the diagnosis of an unperforated aortic sinus aneurysm is an extremely difficult one.[4] The presence of a harsh, loud, systolic murmur along the left sternal border in a patient with arachnodactyly or aortic coarctation may alert one to the possibility of an aneurysm of the sinus, but confirmation by angiocardiography is required.[5]

Since the aortic root is enveloped by the cardiac chambers, sinus of Valsalva aneurysms must reach considerable proportions to become apparent by deforming the contour of the cardiac silhouette. Only those of luetic origin reach a size sufficient to project from the cardiac border.[6] Since aneurysm of the sinuses of Valsalva of luetic origin is a manifestation of syphilitic aortitis, other signs of the process such as dilatation or calcification of the ascending aorta may accompany the aneurysm. Calcification of the ascending aorta due to lues may extend deep into the root of the aorta and at times outline aneurysmal dilatation of the aortic sinuses. This finding may be visible on a routine chest X-ray film[7] (figure 3). Unfortunately, aortic sinus aneurysm when due to syphilis is part of a diffuse process in the proximal aorta, and surgical intervention is as yet not feasible. Actually these patients usually die of heart failure due to luetic aortic regurgitation rather than perforation of these aneurysmal sinuses.

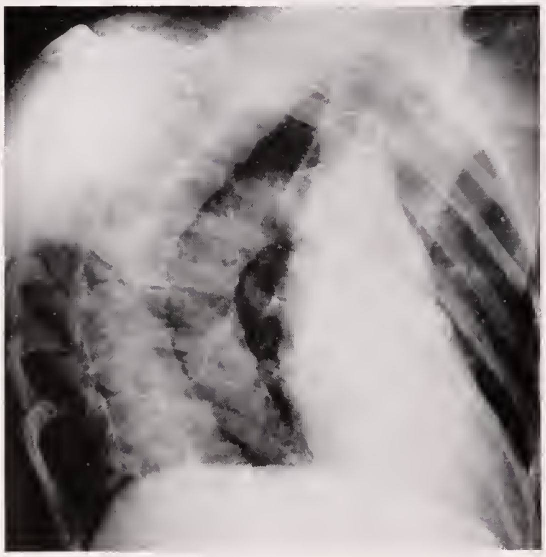

Fig. 3. Aneurysm of left sinus of Valsalva outlined by a circular area of calcification. The marked aneurysmal dilatation and calcification of the ascending aorta with the calcification extending into the aortic root prove the etiology to be luetic.

Aortic Valve

Calcification of the aortic valve is a late result of rheumatic valvulitis (figure 4). Such calcification is seen most frequently in elderly men. Although the lesion is usually rheumatic in origin there are probably instances in which the calcific changes are purely degenerative in nature.

Regardless of the etiology, X-ray demonstration of this lesion may be quite helpful in assessing the significance of a basilar systolic ejection murmur. The clinical diagnosis of aortic stenosis may be quite difficult and in some series has been missed in well over 50 per cent of the cases.[8] Occasionally the murmur and thrill are not present. It is in such cases that discovery of valvular calcification by means of X-rays may be helpful in directing the clinician's attention toward the possibility of aortic stenosis.

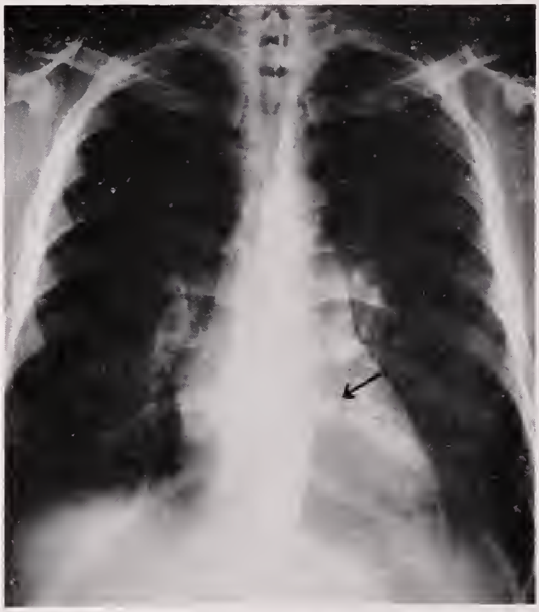

Fig. 4. Calcification of aortic valve. The calcification can be seen overlying the tenth rib.

Mitral Valve

Demonstration of mitral valve calcification is proof of rheumatic involvement of the valve (figure 5, a and b). In mitral stenosis complicated by heavy valvular calcification the loud first sound and opening snap characteristic of mitral stenosis may be absent. This modification of the classical stethoscopic findings may render the auscultatory diagnosis relatively difficult. For this reason the discovery of such valvular calcification becomes a valuable sign. In the total evaluation of the results to be expected from mitral valvulotomy, it is worthy of consideration that the incidence of significant mitral insufficiency is twice as high among patients demonstrating valve calcification. In addition, the surgeon is aware that a heavily calcified valve is more difficult to open effectively and that the risk of creating calcium emboli is present at the time of valve fracture.

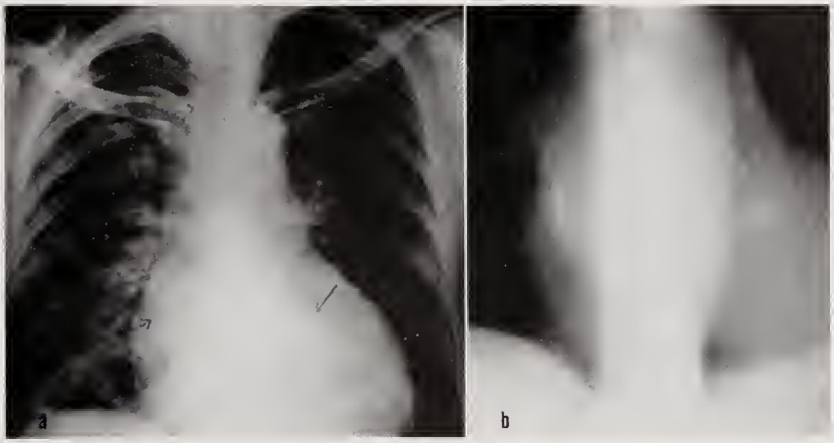

FIG. 5, a and b. Calcification of mitral valve leaflets and calcification of wall of left atrium. The process is visible on the plain film but better demonstrated on the accompanying tomogram. These findings indicate rheumatic heart disease with mitral valve involvement.

LEFT ATRIUM

Calcification of the left atrium is a sign of rheumatic heart disease with mitral stenosis and significant mitral insufficiency.[9] The calcium more frequently lies within the wall of the left atrium (figure 5, a and b) but occasionally may actually represent laminated calcification of a mural thrombus in this chamber or its appendage. Such calcification is frequently accompanied by calcification of the mitral valve, although the valvular element may be difficult or impossible to identify short of postmortem examination. As stated before, under such conditions the loud first sound and opening snap characteristic of mitral stenosis are often absent, and the auscultatory diagnosis of mitral valve obstruction is difficult.

Heavy calcification of the atrial wall and its appendage may make the usual approach to mitral valvulotomy impossible, and in 2 known cases surgical intervention was abandoned when such calcification was found at the time of operation.

ANNULUS FIBROSIS

As has been pointed out, the demonstration of calcification of the mitral valve implies rheumatic valvulitis. On the other hand, calcification of the annulus fibrosis of the mitral valve without leaflet involvement is primarily a degenerative process.[10] Such a finding is quite frequent at postmortem examination in patients over the age of 50 and at times may be heavy enough to cast an X-ray shadow. Characteristically this calcification assumes a U- or J-shaped configuration, and although it moves with the cardiac impulse does not demonstrate the fluttering motion characteristic of valve leaflets (figure 6).[10]

The significance of this finding is subject to some debate. Many authors consider it to be merely an incidental finding in an elderly patient frequently accompanied by a harsh rough or musical systolic murmur at the apex. Although no hemodynamic studies have been carried out, many authors feel that the sclerotic, fibrotic and calcific invasion of the annulus gives rise to a rigid or poorly contracting valve ring during systole. They feel that this results in mitral insufficiency which at times may reach significant proportions.[11] Recent studies have shown that patients with mitral insufficiency usually

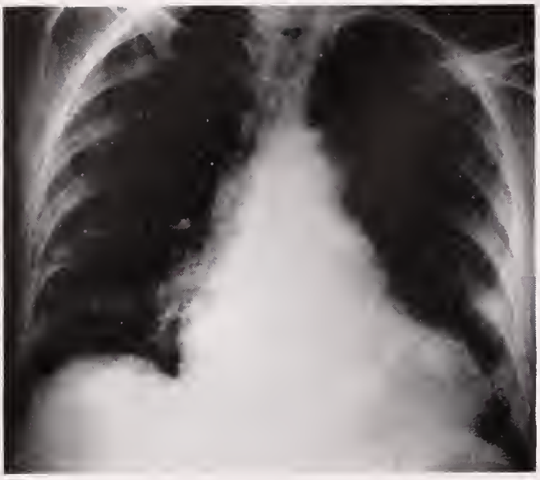

FIG. 6. Calcification of mitral ring or annulus fibrosis due to degenerative vascular disease as seen in an 80-year-old colored woman. Note U-shaped configuration. Postmortem examination confirmed the fact that the calcium was in the mitral ring as well as the absence of rheumatic valvulitis.

fare well until the valvular incompetence is complicated by the appearance of degenerative cardiovascular disease, which is quite common in this age group. Under these circumstances moderate to severe mitral insufficiency may lead to clinical symptoms. About 25 per cent of patients with calcified annulus fibrosis show calcification of the aortic valve which may or may not be seen on X-ray examination. This combination is frequently accompanied by heart block. In this setting one would be justified in stating that the aortic valve lesion is primarily degenerative rather than rheumatic in nature.

CORONARY VESSELS

Calcification of the coronary vessels appears in about 2 to 3 per cent of routine chest films of patients over the age of 50.[12] These calcific deposits are characteristic in that they appear as paired linear streaks or a series of interrupted plaques running parallel to each other and to the course of the vessel.

The left coronary is more commonly demonstrated than the right. One usually sees either the circumflex branch as it runs parallel to the left cardiac border just inside the shadow of the silhouette immediately below the pulmonary artery segment or the anterior descending branch running in the groove of the interventricular septum.[13] Figure 7, a and b, shows calcification involving the left circumflex and the right coronary artery.

This sign means that coronary atherosclerosis is present. About half of the patients demonstrating this sign have clinical evidence of coronary artery disease; another quarter of the patients are symptom-free but have electrocardiographic changes suggestive of coronary artery disease. Therefore, demonstration of coronary artery calcification in a patient who is asymptomatic but with a suspicious electrocardiogram strengthens considerably the validity of the electrocardiographic interpretation. In the remaining cases the X-ray sign is present in the absence of clinical or electrocardiographic evidence of coronary vascular disease. The earlier the age at which this sign is demonstrated the more serious the implications.

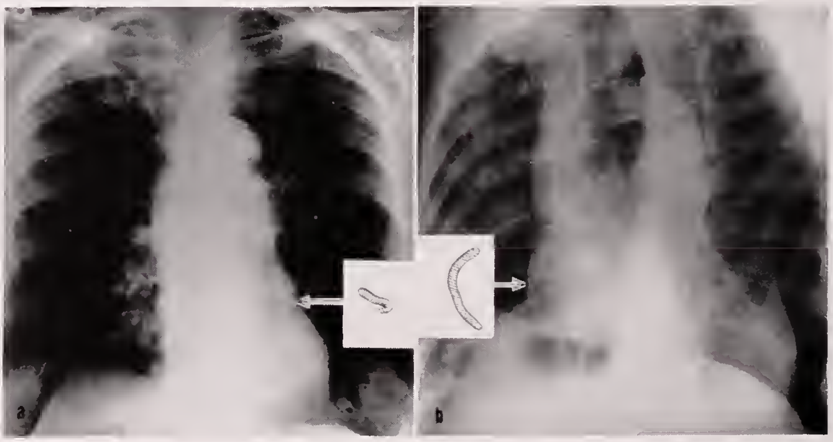

FIG. 7, a and b. Calcification of circumflex branch of the left coronary artery as sketched, most common segment of coronary system to be seen on X-ray films. Left anterior oblique view demonstrates right coronary artery seen in the anterior portion of the cardiac silhouette as sketched.

PERICARDIUM

Calcification of the pericardium occurs under many different circumstances, but its presence in an otherwise undiagnosed case of heart failure should suggest the diagnosis of constrictive pericarditis. Calcification can be tuberculous, pyogenic, rheumatic, or post-traumatic in nature. More recently 2 cases of asymptomatic pericardial calcification have been demonstrated in the presence of a negative tuberculin and positive histoplasmin skin test.[14] Rheumatic pericardial calcification is the end-result of a severe episode of rheumatic pancarditis and is usually associated with obvious valvular involvement. It is the latter that accounts for the symptoms. Rheumatic pericardial calcification and those presumably due to histoplasmosis show thin delicate wisps of calcium, and these processes probably never account for the true syndrome of constrictive pericarditis.

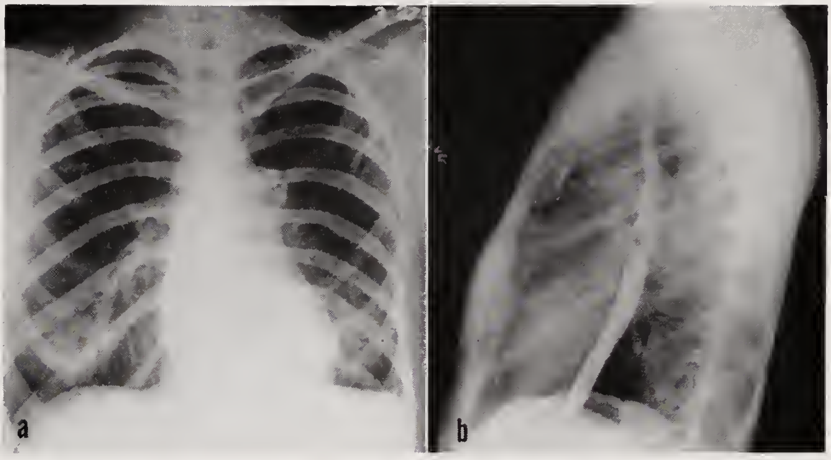

FIG. 9, a and b. Ring-like calcification representing calcification of aortic end of patent ductus arteriosus.

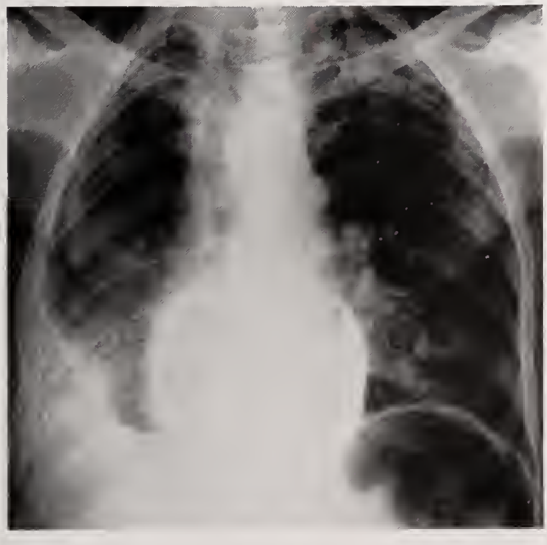

FIG. 8. Heavily calcified pericardium in the presence of calcified pleura and cavitary disease of left upper lobe in a patient with constrictive pericarditis due to tuberculosis.

Heavy pericardial calcification results from tuberculosis, pyogenic infection or trauma. The traumatic variety is a rare sequel of traumatic hemopericardium, and in a few cases organization and calcification of the hemopericardium have resulted in the syndrome of constriction. By far the most common proven cause of heavy pericardial calcification is tuberculosis. This sequence is portrayed in figure 8, which shows an open tuberculous cavity and heavy pleural and pericardial calcification. The involvement of 2 separate serous membranes suggests a hematogenous type of disease seeding both the pleurae and pericardium. Although hematogenous dissemination occasionally represents the mode of spread to the pericardium the usual route is by direct extension from caseous mediastinal nodes.

DUCTUS ARTERIOSUS

Occasionally one may see on X-ray films a ring-like calcification representing a calcified ductus arteriosus (figure 9).[15] Such calcification usually occurs at the aortic attachment of the ductus and actually represents calcification of the wall of the aorta at the point from which the duct arises. The demonstration of radiologically visible calcium in a patent ductus has not been reported in infants and children but only in young adults. It is stated that such heavy calcification accompanies patent ductus more commonly when the latter has been complicated by healed bacterial endocarditis.

The presence of calcification does not imply that the duct is necessarily patent, but the sign may be helpful in the presence of patent ductus complicated by other features such as pulmonary hypertension, which may alter the usual hemodynamic findings, and the characteristic Gibson machinery murmur.

Occasionally the area of the aorta at the site of attachment of the ductus may undergo aneurysmal dilatation with secondary calcium deposits. This entity may be difficult to differentiate from a calcified mediastinal tumor, but if the characteristic murmur is present one may suspect the true diagnosis.

Other Areas of Calcification

No attempt has been made to show examples of every type of calcification seen in the region of the heart. For example, myocardial infarction with or without aneurysm may result in calcification.[16] In some geographical areas calcification within the cardiac silhouette may be due to echinococcus cyst.[17]

The roentgenologic differential diagnosis of the various processes based on their location and configuration may at times be complicated and necessitate special studies. Nevertheless, it becomes obvious upon reviewing these illustrations that the finding of the presence of calcification in the region of the heart and great vessels may be very helpful in the attempt to assess accurately the anatomic and etiologic factors responsible for the patient's clinical picture.

BIBLIOGRAPHY

1. Hyman, J. B., and Epstein, F. H.: Am. Heart J., 1954, **48**, 540.
2. Leonard, J. J., and Moser, K. M.: Abstracted, Circulation, 1957, **16**, 905.
3. Jones, A. M., and Langley, F. A.: Brit. Heart J., 1949, **11**, 325.
4. Steinberg, I., and Finby, N.: Circulation, 1956, **14**, 115.
5. Steinberg, I., and Finby, N.: Am. J. Roentgenol., 1957, **77**, 263.
6. Merten, C. W., Finby, N., and Steinberg, I.: Am. J. Med., 1956, **20**, 345.
7. Shipp, J. C., Crowley, L. V., and Wigh, R.: Ibid., 1955, **18**, 160.
8. Kumpe, C. W., and Bean, W. B.: Medicine, 1948, **27**, 139.
9. Leonard, J. J., Katz, S., and Nelson, D.: New England J. Med., 1957, **256**, 629.
10. Fertman, M. H., and Wolff, L.: Am. Heart J., 1946, **31**, 580.
11. Simon, M. A., and Liu, S. F.: Ibid., 1954, **48**, 497.
12. Endrys, J., and Černohorský, J.: Cardiologia, 1956, **29**, 426.
13. Reich, N. E., and Witten, M.: Am. J. Roentgenol., 1957, **77**, 274.
14. Billings, F. T., Jr., and Couch, O. A., Jr.: Ann. Int. Med., 1955, **42**, 654.
15. Ruskin, H. D., and Samuel, E.: Brit. J. Radiol., 1950, **23**, 710.
16. Epstein, F. H.: Am. Heart J., 1953, **46**, 150.
17. Zizmor, J., and Szucs, M.: Am. J. Roentgenol., 1945, **53**, 15.

THE OFFICE MANAGEMENT OF IRON DEFICIENCY ANEMIA*

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AMONG the multiple causes for anemia, a frequent problem in clinical medicine, deficiency of iron is among the most common.[1] Proper management of iron deficiency is both inexpensive and rewarding. Despite this, the continued popularity of expensive "panhematinics" suggests that the average physician finds anemia somewhat of an enigma. The Hematology Outpatient Clinic at D. C. General Hospital has been concerned with large numbers of mildly anemic patients. Certain procedures have been developed for the management of these patients. The rapid proficiency acquired by our medical residents in the use of these procedures suggests their application to routine office practice.

The presence of anemia is best assessed with the hematocrit (Wintrobe) because of its simplicity and reliability in the hands of minimally trained personnel. The hemoglobin determination is nearly as satisfactory and may be done on capillary blood. The Haden-Hauser and Sahli technics are simple and adequate.[2] The cyanmethemoglobin method is more reliable.[3] Normal values (table 1) do not vary from population to population or from laboratory to laboratory if the procedures are properly standardized. The presence of anemia should always be explained, if possible.

TABLE 1

Normal Values for Hemoglobin and Hematocrit
(Modified from Wintrobe[4])

	Males	Females
Hematocrit (%)	40-50	37-47
Hemoglobin (Gm./100 ml.)	14-17	12-16

Although the history and physical examination are of little help in establishing the presence of anemia, they are indispensable to proper management. Under certain conditions iron deficiency is so common that its presence should immediately suggest the cause for any anemia present. Table 2 summarizes these situations.

TABLE 2

Common Situations Predisposing to Iron Deficiency

1. Infancy—growth
2. Adolescence—male—growth
    female—growth and menses
3. Menstruating female—menstrual blood loss
4. Multiple pregnancies—iron loss to the fetus

During periods of rapid growth, such as infancy and adolescence, the demand for iron is increased so that hemoglobin mass may increase with body size. The adolescent female has the added problem of iron loss with the menses. At these ages relative dietary deficiency of iron is likely to occur and iron deficiency is common. At other times the body conserves iron so carefully that inadequate diet plays a negligible role in the development of iron deficiency anemia. Iron loss has almost inevitably occurred. This iron loss may be "normal," as in multiple pregnancies or with the menses. Moore[5] has demonstrated the difficulty in assessing the amount of menstrual blood loss. Except when caused by growth, pregnancy, or menses, iron deficiency demands a search for a bleeding lesion. Such investigation, in our experience, has

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* The studies mentioned herein were supported in part by a grant-in-aid from Nordson Pharmaceutical Laboratories, Inc., Irvington, N. J.

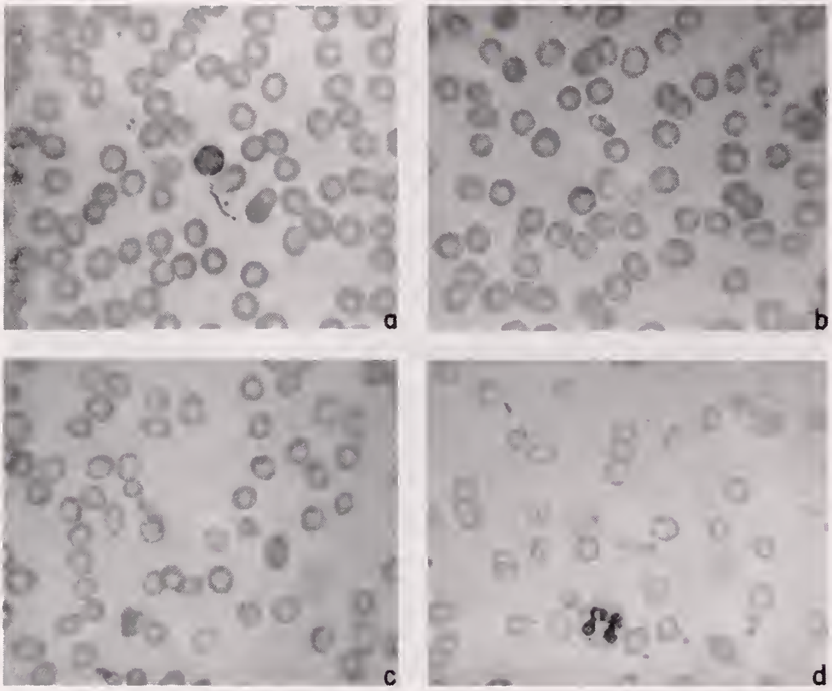

FIG. 1. (a) Normal smear. (b) Mild iron deficiency (case 1). (c) Moderate iron deficiency (case 3). (d) Severe iron deficiency (case 3). Note tiny pale cells, cells with tails and peculiar shapes, and oblong cells, all frequently seen in iron deficiency.

frequently led to the final diagnosis of a slowly bleeding ulcer or carcinoma in the gastrointestinal tract.

When anemia is discovered the most efficient next step is examination of a peripheral blood smear. Although the practiced expert is certainly more adept at this than the casual observer, it is impressive how rapidly students and house officers begin to obtain information from the stained smear. Attention to a few small details is helpful. First, under low power a satisfactory field is selected where the red blood cells are not widely separated nor superimposed on each other. A definitely elevated white blood cell count is readily detected. Under higher power platelets are roughly quantitated and red blood cell morphology examined. In most of the normocytic anemias the red blood cells are uniform in size and shape. This is also true of the normal smear (figure 1-a). The red blood cells of the macrocytic and microcytic (iron deficiency) anemias vary in size and shape. In general, the more severe the anemia, the more marked the variation. This variation is one of the earliest changes found, occurring before the red blood cell indices begin to change.[6] These changes are illustrated in figure 1.

The preliminary impression is based upon the history, physical examination, and laboratory work as described above. The more severe the anemia, the more thorough the initial work-up. When the hematocrit is below 20 per cent or the patient is ill enough to require blood transfusions, it may be wise to include hematologic consultation and or bone marrow examination and other studies before the picture is clouded by therapy and transfusion. The decision to transfuse is based more upon what is found at the bedside rather than on the results of laboratory tests. In a comfortable patient, not acutely bleeding, a properly conducted therapeutic trial is the next and often the only necessary step in the diagnosis. There are 3 essential parts to a true therapeutic trial: (1) a preliminary diagnosis, (2) a single specific medication based upon that preliminary diagnosis, and (3) adequate follow-up examinations. Omission of any of these nullifies the value of a therapeutic trial.

For iron deficiency, of course, iron is the single specific medication. Ferrous sulfate has been found satisfactory in our experience in doses calculated to provide 60 to 80 mg. of elemental iron per dose (300 mg. of the hydrated salt or 200 mg. of the exsiccated salt). Such an amount is administered 3 times daily with meals. Side-effects have not been frequent. For the few patients who fail to tolerate ferrous sulfate, ferrous gluconate or any one of a myriad of other preparations designed to minimize gastrointestinal irritation may be used. Intolerance is related to the manner of therapy as much as to the medication itself.[7] It is unlikely that there are clinically significant differences of response to the various preparations of iron.[6]

The follow-up of the patient is extremely important and is comprised of more than simple reëxamination of the blood. A response is defined as a rise in hematocrit of 3 or more per cent or an increase of 1 Gm. or more hemoglobin within 3 weeks. Failure of response demands an explanation (table 3). Chronic bleeding at a rate greater than that of replacement by iron absorption and utilization is an important cause for such failure and usually requires parenteral therapy together with eradication if possible of the local cause for bleeding. Isolated malabsorption of iron is unknown; when malabsorption is suggested, the patient should be investigated for the presence of steatorrhea. Another indispensable part of the follow-up is determination of the cause for iron deficiency. Such causes have been discussed above. It should be emphasized that poor diet per se is almost never an acceptable reason for iron deficiency.

TABLE 3

Common Causes for Failure to Respond to Oral Iron Therapy

1. Failure to take medication (stools black?).
2. Continued bleeding at a rate faster than iron can be absorbed and utilized.
3. Failure to absorb iron from the gastrointestinal tract.
4. Presence of an additional underlying disease that inhibits response.
5. Not iron deficiency anemia.

Parenteral therapy is rarely necessary.[8] Indications are listed in table 4. Intolerance is better managed by suggestion,[7] by initial use of low doses, or by the administration of one of the many "nonirritating" preparations. True intolerance to all oral iron preparations is extremely rare. Although current parenteral preparations are quite safe, serious reaction to oral iron in proper dosage is nearly unknown.

TABLE 4

Indications for Parenteral Iron Therapy

1. Intolerance for oral iron.
2. Chronic bleeding lesion—need to create iron stores.
3. Poor absorption of oral iron.
4. Presence of inflammatory gastrointestinal disease which could become dangerous if irritated.

A few examples will serve to illustrate the principles discussed above.

Case 1. A 35-year-old man volunteered to serve as a normal subject for special studies. He had donated blood twice within the past year. The history was otherwise normal. Physical examination was normal. The hematocrit was 39.5, MCV 85, MCHC 31. Serum iron was 18.5 micrograms per 100 ml. of blood. Peripheral smear contained a few microcytes (figure 1-b). Iron stores in the bone marrow were reduced.[9] After 1,000 mg. of iron-dextran* intramuscularly, the hematocrit rose to 43, MCV 93, MCHC 32.

Comment. Anemia was certainly mild and iron deficiency was discovered only in the course of a thorough evaluation prior to special studies on a supposedly normal volunteer. The peripheral smear was of more aid than the indices. The response to iron in therapeutic trial confirmed the diagnosis.

Case 2. A 19-year-old student nurse was found to be anemic when admitted for care of epidemic parotitis. The history and physical examination were unremarkable. The menstrual periods were not recognized as abnormal. A blood smear strongly suggested iron deficiency (figure 1-c). The hematocrit was 30. A therapeutic trial with iron-glycine† resulted in prompt reticulocytosis and a rise in the hematocrit after 4 weeks to 38.5. At final follow-up 5 months later the hematocrit was 44.5.

Comment. This patient had just passed through a period of rapid growth and in addition had normal (?) blood loss through menstrual flow.

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* Supplied as Inferon by Lakeside Laboratories, Inc., Milwaukee, Wisconsin.

† Supplied as Ferronord by Nordson Pharmaceutical Laboratories, Inc., Irvington, New Jersey.

With this history and a typical smear, iron deficiency was suspected and confirmed by the response to oral iron.

Case 3. A 38-year-old Negro was admitted with signs and symptoms of mild congestive heart failure. He was severely anemic (hematocrit 13) and gave a history of frequent epistaxis and some rectal bleeding. Typical lesions of hereditary telangiectasia were noted in the fundi and on the nasal mucosa. On smear the red blood cells were seen to be severely microcytic and hypochromic and had marked variation in size and shape (figure 1-d). Nucleated red blood cells were seen. Sternal aspiration obtained marrow that was typical of iron deficiency. The patient was given iron-glycine* with excellent clinical and laboratory response. His hematocrit rose to 38.5 in 8 weeks and to 43.5 in 2½ months, despite continued epistaxis and mild rectal bleeding.

Comment. Many features of this case will be discussed elsewhere.[10, 11] The diagnosis of iron deficiency was based upon information from the history, physical examination, and examination of the blood and bone marrow. It was confirmed by response to the therapeutic trial. Bone marrow aspiration was done because the initial diagnosis and treatment must be as accurate as possible in the severely ill patient. Ordinarily transfusion would have been recommended for one so ill as soon as proper diagnostic studies had been made, but the patient was comfortable at bed rest, not bleeding acutely, and under close observation. He was permitted to make his own cells and avoid the dangers of transfusion.[12] Clinical response to parenteral iron is not significantly faster than the response to oral iron.[8] Ferrous sulfate has produced equally good clinical responses.[6]

Case 4. A 58-year-old Negress was referred to the hematology clinic for evaluation of her anemia. Although she had chronic renal disease, there had been no prior knowledge of azotemia. On smear the red blood cells were seen to be hypochromic and microcytic. The patient was started on iron-glycine tablets.* The blood urea nitrogen was later reported to be 120 mg. per 100 ml. of blood. After 1 month of therapy, when it became apparent that the specific therapeutic trial had failed, a bone marrow aspiration was done. The marrow iron was grade 5 (increased) and the total picture was compatible with anemia secondary to renal disease. The patient was returned to the medical clinic for further follow-up care.

Comment. Although the initial picture suggested iron deficiency, the therapeutic trial was a failure and necessitated further study. After more complete hematologic evaluation it was evident that she was not iron-deficient and that there was another cause for her anemia, chronic renal disease with azotemia.

SUMMARY

A method of office management of anemia illustrated by the example of iron deficiency has been presented. The proper use of a 3-step therapeutic trial has been emphasized: (1) preliminary diagnosis based upon history, physical examination, and examination of a stained smear of peripheral blood, supplemented when necessary by other technics such as bone marrow examination, (2) use of a single specific medication, and (3) thorough follow-up of the patient to assure that response is complete. These principles have been illustrated by several case histories.

BIBLIOGRAPHY

1. Kirschenfeld, J. J., and Tew, H. H.: J.A.M.A., 1955, **158,** 807.
2. Ham, T. H., editor: Syllabus of Laboratory Examinations in Clinical Diagnosis: Critical Evaluation of Laboratory Procedures in the Study of the Patient. Cambridge, Mass.: Harvard, 1950.
3. Crosby, W. H., Munn, J. I., and Furth, F. W.: U. S. Armed Forces M. J., 1954, **5,** 693.
4. Wintrobe, M. M.: Clinical Hematology, 4th ed. Philadelphia: Lea, 1956.
5. Moore, C. V., and Dubach, R.: J.A.M.A., 1956, **162,** 197.
6. McCurdy, P. R.: Unpublished observations.
7. Kerr, D. N., and Davidson, S.: Lancet, 1958. **2,** 489.
8. McCurdy, P. R., Rath, C. E., and Meerkrebs, G. E.: New England J. Med., 1957, **257,** 1147.
9. Rath, C. E., and Finch, C. A.: J. Lab. & Clin. Med., 1948, **33,** 81.
10. McCurdy, P. R.: Hereditary hemorrhagic telangiectasia in the Negro, in preparation.
11. McCurdy, P. R.: Severe anemia: a clinical study, in preparation.
12. Mollison, P. L.: Blood Transfusion in Clinical Medicine, 2nd ed. Springfield, Ill.: Thomas, 1956.

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RECENT DEVELOPMENTS IN CANCER CHEMOTHERAPY*

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AS RECENTLY as 15 to 20 years ago the chemotherapy of cancer was an area of skepticism within the ranks of cancer investigators. It was the feeling of many that chemotherapy had little to offer in the overall management of the cancer patient and in the attack upon the cancer problem. At that time a few investigators initiated programs of cancer chemotherapy research, and from these came a number of drugs with anticancer properties. These men demonstrated that temporary remissions could occur in chronic leukemia, Hodgkin's disease, and other lymphomas with alkylating agents such as nitrogen mustard. Drugs such as Methotrexate and 6-mercaptopurine attacking the metabolic aspects of cancer cells were able to produce temporary remissions in cases of acute leukemia.[1] Recently the folic acid antagonists have demonstrated ability to suppress metastatic choriocarcinomas.[1] Other studies showed the effectiveness of female and male hormones in the treatment of metastatic breast carcinoma.[2] The activity of estrogenic hormones in the treatment of metastatic carcinoma of the prostate was also demonstrated, and other effective anticancer agents have recently been reported.[1]

As a result of these advances, Congress in 1955 approved a National Cancer Chemotherapy Program to coördinate the efforts of the National Cancer Institute, the Food and Drug Administration, the Veterans Administration, the Atomic Energy Commission, the American Cancer Society, and the Damon Runyon Memorial Fund for Cancer Research.[3] Out of this coördinated effort grew the Cancer Chemotherapy National Service Center to administer the program. Today this program continues to grow in size, scope and complexity and is elaborating a pattern of drug development for other chronic diseases. These programs represent a network of hundreds of independent investigators voluntarily grouping together to develop the best approach toward the desired goal.

Available to the investigators are large-scale technical services which they would be unable to provide within their own institutions. Scientific freedom within the academic institution is emphasized as essential for assuring originality and diversification of the program. Industry is encouraged to participate, and the Government has attempted to provide funds, services and an organizational framework for this coöperative research.

These steps have produced a marked impetus for developing an effective chemotherapy program in many areas where they previously did

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not exist. As a result of the increased interest in the approach to cancer by chemotherapeutic means, the practicing physician is continually being bombarded by the lay publications, newspaper articles, etc., proclaiming new and fascinating drugs which appear to be "the cure for cancer." It is the purpose of this paper to present some of the more recent drug developments in the cancer chemotherapy field that may shortly be of interest to the clinician or that may be publicized in the lay press. It is conceivable that one or more of these agents to be discussed will be the new drug available for the management of patients with disseminated cancer or that they will serve as a "lead" to the development of newer and more effective compounds.

Principles of Clinical Investigation of Cancer Chemotherapeutic Agents

The clinical investigator in the field of cancer chemotherapy faces many problems before undertaking the study of new drugs that may be subsequently used in the clinical management of patients with malignancy.[4] The question of the risk involved to the patient by the introduction of a new potentially toxic chemical is always present. This becomes less of a problem if there are adequate studies of the drug in experimental animals to define the limits of toxicity and to suggest antitumor activity.[5] There should be proper facilities, staff, and attitudes which permit careful supervision of such trials. The senior physician must have had experience in handling this type of investigative study, and appropriate attention must be paid to the designs of the study in order that a definite answer can be obtained at the completion of investigation. It then becomes necessary to establish dosages, dose schedules, and routes of administration that will be applicable to future use in patients who may not be seen in an investigative environment.

Clinical investigations in cancer chemotherapy are entering a new phase. Previously a few investigators in widely dispersed research centers studied drugs that could cause a partial remission of cancer in man. The present phase involves quantitative studies by large coöperative groups in an attempt to uncover more effective drugs for the management of cancer patients. The combined skills of the biologist, pharmacologist, biostatistician, and clinician are being used to delineate clinically active materials from the endless products of the chemist. A carefully supervised clinical trial is only undertaken after pharmacologic studies are completed, and attempts are then made to correlate the laboratory results and the clinical effects.

Promising New Agents

From the various chemotherapeutic investigative studies a group of "promising new agents" have been developed. If they survive extensive clinical study and prove therapeutically effective they may become available for the palliative management of patients with cancer. We shall comment briefly on some of the recent reports concerning some new agents and what promise they may hold for the future. Eliminated from the discussion are those chemicals which are currently in use as anticancer agents, i.e., nitrogen mustard, ThioTEPA, Leukeran, Myleran, 6-mercaptopurine, and Methotrexate.

Table 1 lists some of the new drugs currently under experimental study or in preliminary clinical trials. These appear to have activity in the chemotherapy of cancer and merit attention as possible future anticancer agents.

Alkylating Agents

Since the discovery of nitrogen mustard and its chemotherapeutic effects a large number of compounds of similar chemical action have been synthesized and studied. In general, these changes have not succeeded in producing compounds that are markedly superior in their therapeutic effects.[6] Some of these, because of their ease of administration and lack of undesirable side-effects, other than bone marrow depression, have found use in the management of patients with cancer. The search, however, continues for a compound with therapeutic activity superior to nitrogen mustard and with minimal side-effects. The ideal alkylating agent would be one that attacks tumor tissue with a high degree of specificity and therapeutic effectiveness without producing bone marrow depression or gastrointestinal disturbances as seen with many of the compounds currently available.

TABLE 1

Some Chemotherapeutic Agents of Recent Experimental Value

1. *Alkylating agents*
    - Nitromin
    - E-39
    - A-139
    - Chloroquine mustard
    - Atabrine mustard
    - Diepoxypiperazine
    - Uracil mustard
    - Cytoxan
2. Antimetabolites
    - a. Chlorinated antifols
        - Monochloroamethopterin
        - Dichloroamethopterin
    - b. Purine antagonists
        - Thioguanine
        - Thioguanosine
    - c. Pyrimidine antagonists
        - 5-Fluorouracil
        - 5-Fluorouridine
        - 5-Fluorodesoxyuridine
        - 5-Fluororotic acid
    - d. Glutamine antagonists
        - Azaserine
        - 6-Diazo-5oxo-L-norleucine (DON)
3. Microbiological preparations ("antibiotics")
    - Actinomycins
    - Mitomycin
    - Streptovitacin A
    - Actinobolin
    - Amicetin
4. Hormones
    - 9-Alpha-fluoro-11-betahydroxy-17 alphamethyltestosterone (Fluoxymesterone)
    - 17 Alpha-ethinyl-19 nortestosterone
5. Polycyclic hydrocarbons
    - Methylcholanthrene

Nitromin. This is a white powder readily soluble in water and has been used principally by the Japanese.[6] Studies in the cancer chemotherapy screens have shown that this drug has a high therapeutic ratio with less toxicity than that seen with nitrogen mustard. It can be given intravenously or orally and has been said to be effective in lymphoma, chronic leukemia, carcinoma of the breast, lung, testis, ovary and liver, and in choriocarcinoma. Also, it has been reported to increase the survival time of patients with gastric carcinoma who have been treated immediately postoperatively. Although bone marrow depression is said to be less frequent than with nitrogen mustard, it does occur.

A-139, E-39. These compounds are benzoquinones attached to alkylating groups, A-139 having 1 additional oxygen atom.[6, 7] They can be given orally or intravenously and have had preliminary clinical trials in the United States. In general their toxicity is very similar to that of nitrogen mustard, since they produce nausea and vomiting and bone marrow depression. The compounds are difficult to handle. A-139 may show sudden and unpredicted hemapoietic toxicity and is a vesicant if it comes in direct contact with the skin. Their range of therapeutic activity seems to be similar to that seen with the other alkylating agents. Venous thrombosis at the site of injection also occurs with A-139. Further study with these compounds is necessary before one can place them properly in the armamentarium of the chemotherapist.

Antimalarial mustards. The nitrogen mustard analogs of chloroquine and atabrine have been synthesized as alkylating agents.[6] These compounds are usually given intravenously, but an oral preparation of atabrine mustard is available. They produce the manifestations of bone marrow depression usually seen with alkylating agents, and the chloroquine derivative has produced convulsions, confusion, hallucinations, and paresthesias. This type of toxicity is diminished when an intramuscular route is used. In clinical trials these drugs seem to be most effective in the neuroblastomas and rhabdomyosarcomas.

Venous thrombosis has occurred with intravenous administration.

Diepoxypiperazine. This compound is a readily soluble alkylating agent not useful by mouth since it causes severe nausea and vomiting. It is usually given intravenously in doses of 15 mg. per Kg. daily for 4 doses.[8] Its major toxicity is bone marrow depression. Therapeutic activity of this compound has been shown largely in Hodgkin's disease, lymphosarcoma and chronic leukemias.

Uracil mustard. This is a new alkylating agent (5-bis, 2-chloroethylaminouracil) with wide spectrum of therapeutic activity against a large number of advanced animal tumors.[9, 10] In the therapy of animal tumors by oral or parenteral routes of administration it appears to be superior to nitrogen mustard. Preliminary clinical trials have shown short-lived objective responses in lymphomas and leukemias. Subjective improvement occurred in a few cases of multiple myeloma. Toxicity occurred infrequently and was of the variety usually seen with alkylating agents. Current studies are under way to delineate a more effective dose schedule and its therapeutic activity.

Cytoxan. This is a new alkylating agent which is basically a propylene phosphoric acid diamine.[11, 12] It is interesting because in vitro cytoxan has practically no activity. It is therefore assumed that its conversion into an active form occurs at the cellular level.[13] It was hoped that this particular property would produce a greater degree of specificity on tumor tissue with a lesser degree of generalized toxicity. This drug seems to have some selective effect in that it depresses the white blood cell count to a greater degree than the platelet count. This is a phenomenon that does not occur with the other alkylating agents. This drug is in early experimental trial, and it has shown some degree of activity, particularly in those tumors which are usually responsive to the alkylating agents. Extensive clinical studies are also in progress. To date patients have shown objective relief of bone pain with some evidence suggesting arrest of tumor growth.

In general the polyfunctional alkylating agents studied thus far have a similar spectrum of therapeutic activity and similar untoward effects. The quantitative differences that have been suggested can be explained by variations in dose schedules, route of administration, distribution of the drug, and selection of case material, and not by any fundamental alteration in the specificity of the alkylating agent. Of the entire group, cytoxan appears to have a somewhat greater effect upon the white blood cell count than upon other formed elements of the blood. Its antitumor activity is still under investigation. The search continues for the discovery of a compound which will enhance antitumor activity with a minimal degree of toxicity.

Antimetabolites

Chlorinated antifols. The chlorinated folic acid antagonists, monochloroamethopterin and dichloroamethopterin, are of interest because in animal tumor systems they have a greater therapeutic ratio than other antifolic compounds.[14] To date the monochloro preparation has exhibited more toxicity than the dichloro preparation, and very little study in human tumors has been reported. The 3′–5′ dichloroamethopterin has been studied in patients with acute leukemia and various types of solid tumors in an attempt to establish a dose regimen for experimental clinical trials. There has been suggestion of activity in patients with leukemia and various lymphomas. Preliminary therapeutic trials are currently underway. The type of toxicity seen is similar to that seen in the patients receiving amethopterin (stomatitis, gastrointestinal disturbances, leukopenia, and thrombocytopenia).

Purine antagonists. Thioguanine and thioguanosine are 2 of the new purine antagonists currently under investigation.[15] Both of these are analogs of 6-mercaptopurine, which has demonstrated a high degree of therapeutic activity in patients with various types of leukemia and in a few patients with solid tumors. Thioguanine produces occasional gastrointestinal disturbances, leukopenia, and thrombocytopenia.[16] It has been given in a daily dose of 2.5 mg. per Kg. per day to patients with acute leukemia, and 5 of 13 patients have shown good clinical and hematologic remissions. To date there have been no extensive trials in patients with lymphoma or other solid tumors. Schroeder[17] has given thioguanine and azaserine to patients with solid tumors and has seen evidence of objective clinical remissions. Thioguanosine has been used at the Sloan Kettering Institute in the treatment of patients with a variety of malignant tumors. It has been given orally and produces leukopenia at a dose level below that of thioguanine. Therapeutic effect has been seen only in leukemia. Patients with solid tumors have shown no response to date. In 14 patients with acute leukemia, 1 complete remission, 1 partial remission, and 3 clinical remissions occurred. There have been no data to suggest that these compounds will be effective if patients are resistant to 6-mercaptopurine.

Pyrimidine antagonists. The pyrimidine antagonists comprise a group of compounds that are currently undergoing extensive experimental and early clinical study. The original reports of therapeutic activity of 5-fluorouracil have been supported by the studies of several investigators.[18, 19, 20] This compound has a high degree of toxicity, produces diarrhea, stomatitis, severe leukopenia, thrombocytopenia, and occasionally alopecia. Of the many patients studied, its major therapeutic activity has been reported in patients with carcinoma of the breast, carcinoma of the colon, and carcinoma of the ovary. The drug appears to be ineffective in patients with carcinoma of the lung, esophagus, and cervix. In general, patients must be treated to toxicity before therapeutic effects are obtained. To date, although a large number of patients have been studied, there are some reservations concerning its specific role in cancer chemotherapy. There is no question that this drug has activity, and a series of derivatives have been synthesized and are undergoing intensive study.

5-Fluororotic acid has been studied in a small number of patients. It produces the same gastrointestinal and hemopoietic toxicity seen with the parent compound, 5-fluorouracil. 5-Fluorouridine has been given to a number of patients with solid tumors and in general has produced the same type of toxicity with no remarkable therapeutic activity.

5-Fluoro,2′-desoxyuridine (5-FUDR) is the derivative of 5-fluorouracil which has received the greatest experimental study to date.[21, 22] In preliminary studies patients receiving a dose of 30 mg. per Kg. daily for 5 days have shown stomatitis, moderate diarrhea, and leukopenia. A small number of patients have received this compound, and there is some suggestion of therapeutic activity in patients with leukemia and solid tumors. The toxicity which is produced is readily reversible when the drug is discontinued. Four patients with 6-mercaptopurine- and Methotrexate-resistant leukemia have had complete bone marrow remissions when treated with 5-FUDR.[22] In general, the responses were brief and required repeated courses of therapy.

Glutamine antagonists. Azaserine and 6-diazo-5oxo-L-norleucine (DON) are 2 glutamine antagonists which have undergone some preliminary study.[1, 5] Both of these agents have proven very effective in the animal screening systems, particularly against plasma cell tumors of rodents. Manifestations of azaserine toxicity are digestive disturbances, inconstant depression of the white blood cells and platelets, systemic intoxication with or without liver damage, and pyrogenic reactions. The systemic reaction may be manifested by jaundice or central nervous system abnormalities. The manifestations of DON toxicity are mucous membrane ulcerations, diarrhea, nausea and vomiting. Occasionally abdominal pain occurs, and leukopenia and thrombocytopenia are relatively infrequent. These compounds have been used in combination therapy for patients with leukemia, multiple myeloma and various solid tumors. Sufficient therapeutic activity has not been seen except in combination therapy for acute leukemia and the preliminary reports of Schroeder in patients with solid tumors.

MICROBIOLOGICAL PREPARATIONS (ANTIBIOTICS)

The demonstration of antimicrobial activity and activity against experimental tumor screens of various "antibiotic beers" has stimulated the development of a series of microbiologic preparations.[23, 24, 25]

Actinomycins. This is a group of complex polypeptide compounds which differ from each other by the kind and sequence of amino acid in the peptide chains.[26, 27, 28] They have demonstrated growth inhibitory activity in microbiologic and animal tumor screens. Successful therapy of Wilms' tumors in children, rhabdomyosarcomas, neuroblastomas, lymphoblastomas, melanoma and carcinoma of the breast has been reported. Toxic manifestations involve nausea, vomiting, anorexia, oral ulcerations, and hematopoietic depression.

Mitomycin C. The mitomycins were isolated from a new streptomyces strain called *Streptomyces caespitosus.* They have shown marked activity against various microbes and tumor cells in early ascitic fluid. The mitomycin complex consists of active fractions, primarily A and B, which can be isolated in crystal form, and then another fraction, mitomycin C, remains. The latter was reported from many Japanese laboratories as extremely active in their animal screens.[25] Clinical studies have been undertaken in patients with metastatic cancer and leukemia.[29] The toxicity seen has been hemorrhagic manifestations, thrombocytopenia and neutropenia. This may be delayed and occur weeks after cessation of therapy. In addition, patients have shown anorexia, nausea, vomiting, abdominal pain and diarrhea. To date only minimal objective responses have been seen.

Streptovitacin A. A new crystalline antitumor principle has been derived from the "beer solids" of streptomyces fermentation. Significant inhibition of animal tumors has been demonstrated.[30] These tumors show marked disruption of normal growth with areas of liquefaction and necrosis. Preliminary human pharmacologic studies are under way to establish a dose schedule for human therapeutic trials.

Actinobolin. Actinobolin is a substance recovered from microbiologic filtrate of streptomyces. In tumor screening programs it has shown a moderate effect on the tumor spectrum in rats.[5, 25]

Amicetin. Its activity and toxicity vary considerably with various species. Studies in regard to chemotherapeutic activity of amicetin have shown it to be effective in various types of animal tumors. Its toxicity is that of nausea, vomiting and diarrhea with some irritation around local injection sites if given intramuscularly. It appears to be poorly absorbed from the gastrointestinal tract. Very preliminary studies have been undertaken.

HORMONES

Numerous hormone preparations have been synthesized and studied in patients with neoplastic disease. To date the majority of these have not proved superior to the readily available androgenic and estrogenic preparations. Two new derivatives of testosterone have shown a fair degree of activity in early clinical trial and may replace testosterone as the androgen of choice in patients with carcinoma of the breast.

Fluoxymesterone. This is derived chemically from 17-alphamethyltestosterone and appears to be 5 times as potent as methyltestosterone.[31] This compound is an anabolic agent and appears to be as effective as testosterone propionate in the treatment of advanced breast carcinomas. Kennedy[31] has reported the use of this compound in a small number of patients with a lesser incidence of side-effects. In the doses employed (20 to 40 mg. daily) hirsutism and acne were less frequent than with the use of testosterone propionate. Hoarseness, oily skin, and alopecia occurred with the same frequency. The problem of increase in libido did not occur in patients given this compound.

17 Alpha-ethinyl-19 nortestosterone. Clinical effects of this compound have been compared with testosterone propionate in a group of patients with carcinoma of the breast.[32] No virilizing effects were seen and there was no evidence of fluid retention, but there were several instances of vaginal bleeding. There was evidence of an anabolic effect similar to the male hormones, with the hormonal effects similar to those seen with progestational compounds. A small number of patients were treated, and objective remissions that were seen were of the same magnitude as occur in patients treated with testosterone propionate.

Polycyclic Hydrocarbons

Methylcholanthrene. This is a polycyclic hydrocarbon which is carcinogenic but also produces significant inhibition of tumor growth.[33] Intramuscularly this compound retards the growth of hormone-dependent mammary carcinoma in rats, produces a strong depression of pituitary gonadotropin, and has a direct tumor inhibitory action. Several instances of objective and subjective inhibition of tumor growth have been reported in patients with carcinoma of the breast who had hormone-dependent tumors previously refractory to all types of management. Further studies of this compound are currently under way.

Summary

The problems underlying the investigational study of new cancer chemotherapeutic compounds have been presented and discussed. A series of promising new agents have been briefly enumerated and the current status of these compounds presented. A knowledge of the current developments in this sphere may be useful to the practicing physician in enabling him to assess the current trends in this field as they are reported in the scientific and nonscientific literature.

BIBLIOGRAPHY

1. Farber, S., Toch, R., Sears, E. M., and Pinkel, D.: Advances Cancer Res., 1956, **4**, 1.
2. Huggins, C.: Cancer Res. 1956, **16**, 825.
3. Endicott, K. M.: J. Chron. Dis., 1958, **8**, 171.
4. Zubrod, C. G.: Ibid., 1958, **8**, 183.
5. Stock, C. C.: Ibid., 1958, **8**, 178.
6. Comparative Clinical and Biological Effects of Alkylating Agents. Ann. New York Acad. Sc., 1958, **68**, 661.
7. Brindley, C.: Proc. Am. Assoc. Cancer Res., 1959, **3**, 9.
8. Krakoff, I. H., and others: Clinical observations of 1:4 bis (2:3 epoxypropyl) piperazine. Abstracted, Tr. 7th Internat. Cancer Congress, 1958, p. 294.
9. Lane, M., and Kelly, M. G.: Clin. Res., 1959, **7**, 46.
10. Shanbrom, E., Miller, S., and Haar, H.: Ibid., 1959, **7**, 57.
11. Ravdin, R. G., Coggins, P. R., and Eisman, S. H.: Abstracted, Proc. Am. A. Cancer Res., 1959, **3**, 55.
12. Gross, R., and Lambers, K.: Deutsche med. Wchnschr., 1958, **83**, 458.
13. Arnold, H., Bourseaux, F., and Brock, N.: Nature, London, 1958, **181**, 931.
14. Freirich, E. J., Lane, M., and Shaw, R. K.: Proc. Am. Assoc. Cancer Res., 1959, **3**, 20.
15. Hales, D. R., and others: Clin. Res. Proc., 1957, **5**, 32.
16. Phillips, F. S., and others: Cancer, 1956, **9**, 1092.
17. Schroeder, J. M.: Proc. Am. Assoc. Cancer Res., 1959, **3**, 61.
18. Brennan, M. J., and VaitRivicius, V. K.: Proc. Am. Assoc. Cancer Res., 1959, **3**, 9.
19. Curreri, A. R., and others: Cancer Res., 1958, **18**, 478.
20. Sullivan, R. D., and others: Proc. Am. Assoc. Cancer Res., 1959, **3**, 68.
21. Ansfield, F.: Ibid., 1959, **3**, 3.
22. Murphy, L., and others: Ibid., 1959, **3**, 46.
23. Wilson, G. B.: J. Hered., 1950, **41**, 227.
24. Goth, A., and Robinson, F. J.: J. Clin. Invest., 1949, **28**, 1044.
25. Hata, T., Shimads, N., and Ishii, Y.: Antitumor antibiotics. Tr. Symposium on the Chemotherapy of Cancer for the Pacific-Asian Area, Tokyo, 1957, p. 21.
26. Field, J. B.: California Med., 1957, **86**, 305.
27. Korst, D. R., and Meyer, O. O.: Antibiotic Med., 1955, **1**, 474.
28. Tan, C., Murphy, M. L., and Dargeon, H. W.: Proc. Am. Assoc. Cancer Res., 1957, **2**, 254.
29. Colsky, and others: Ibid., 1959, **3**, 13.
30. Field, J. B., and others: Ibid., 1959, **3**, 19.
31. Kennedy, B. J.: New England J. Med., 1958, **259**, 673.
32. Servin, I., Spencer, H., and Hermann, J.: Proc. Am. Assoc. Cancer Res., 1959, **3**, 24.
33. Huggins, C., and McCarthy, J. D.: Cancer Res., 1957, **17**, 1028.

President's Page

COÖPERATIVE PROGRAM PLANNED

The role the Medical Society plays in the life of its members has undergone a marked change since the beginning of the second World War. Previously the Society held a meeting each Wednesday night during the months of October through May. The first meeting of each month was devoted to business matters while all others were scientific sessions. Before the War the number of business meetings had been reduced by delegating more authority to the Executive Board. By 1950 regular scientific meetings were eliminated except for the Annual Scientific Assembly and the Midwinter Seminar, although the Program Committee has from time to time arranged special programs.

Declining attendance at scientific sessions was due to several factors. Before 1941 the number of small medical societies with a limited number of members increased. These groups devoted their time to scientific discussions followed by a social hour. They usually met once a month. In addition several hospitals organized weekly or monthly clinical conferences at which all physicians were welcome. The late Dr. Lewis Ecker instituted such a series of conferences at Garfield Memorial Hospital in the 1930's. These meetings at Garfield and other hospitals were well attended and highly instructive. In the past ten years, with the changes in the organization of the medical staffs of hospitals, attendance at staff meetings has been required. Because of these other meetings the Medical Society's only regularly scheduled scientific programs were reduced to those mentioned above. The Constitution and By-laws requires but does not limit the Society to these two programs.

Meanwhile, in addition to the programs provided by the three local medical schools, several hospitals have appointed directors of medical education. Because there has been no coördination of their efforts in arranging postgraduate programs for practicing physicians, a chaotic situation has resulted. On occasion an eminent out-of-town speaker has given lectures and demonstrations on some medical topic and only a few weeks later another institution has sponsored a discussion of the same subject by an equally eminent authority. Needless to say, the attendance at these sessions was less than the sponsor had hoped, and less than the speaker had a right to expect.

At the invitation of the Society, the Dean of each of the three medical schools in Washington met with the officers of the Society and discussed this confusing situation. All agreed that an effort should be made to coördinate the presentation of these programs, in so far as this is possible, and all assured the Society of their support. The Society's Committee on Postgraduate Education was reactivated, and two members of the Society representing each medical school, nominated by the Dean, were appointed to serve on this Committee. It was considered desirable to start with a small committee which might explore the possibilities and agree on an approach to solving this problem. Now this Committee has been enlarged to include a representative of each hospital in the District of Columbia.

The Medical Society is in no way attempting to dictate to any group what type of medical program should be arranged or when it should be held. However, it is desirable that each group knows what is being planned, that this information be readily available to all physicians in this area, and that where possible the number of meetings be reduced by consolidating them.

W. LeRoy Dunn

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Editorials

WHAT'S NEW IN INDEXING

Something new in the field of medical bibliography is on the horizon. Beginning in 1960 the American Medical Association and the National Library of Medicine will coördinate their indexing activities. The new index will appear under a very old name, *Index Medicus*.

John Shaw Billings first began publication at the National Library of Medicine of a monthly index to the periodical literature of medicine under the title of *Index Medicus* in 1879. In 1916 the American Medical Association began publication of a quarterly medical index under the title *Quarterly Cumulative Index*. In 1927 the *Index Medicus* and the *Quarterly Cumulative Index* were combined, under joint sponsorship of the National Library of Medicine and the American Medical Association, to form the *Quarterly Cumulative Index Medicus* (QCIM). Responsibility for the editorial work was divided between the Library in Washington and the American Medi-

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

cal Association in Chicago. This arrangement was maintained through 1931; since 1932 the AMA has been solely responsible for publication of QCIM. The decision has now been taken by the AMA to cease publication of QCIM with volume 60, which covers the period July–December 1956.

In 1941 the National Library of Medicine began publication of the weekly *Current List of Medical Literature* with the modest aim of providing a sort of order catalog for wartime users of the Library's photoduplication services. Following the War, with QCIM publication schedules lagging, the need for current medical indexing coverage was great, and in 1950 the *Current List* was rehabilitated and began appearing monthly in a new format, with semi-annual cumulations.

Under the new program, beginning with the issue for January 1960, the National Library of Medicine will publish monthly issues only of a new *Index Medicus*. The American Medical Association will publish annual cumulations of the index, to be known as the *Cumulated Index Medicus*. Subscriptions to the *Index Medicus* will be handled by the Superintendent of Documents; the *Cumulated Index Medicus* will be sold and distributed separately by the American Medical Association. Thus medical libraries and other subscribers may elect the option of receiving only the monthly issues, or the annual cumulation, or both; it is expected that most will choose the service and convenience of the latter plan.

The new arrangement is made possible by the introduction of mechanized publication technics at the National Library of Medicine, developed as a result of a grant from the Council on Library Resources, Inc. By the use of a high-speed step camera and ancillary data-processing equipment, rapid compilation of monthly issues and annual cumulations is facilitated.

Coverage of the new index will be substantially increased over the present level of 110,000 articles per year. Within 3 years the level of 150,000 articles annually should be reached, and an ultimate goal of 180,000 articles, out of the 220,000 medical articles printed annually worldwide, is sought.

These new sister publications should provide to the medical profession of this country and of the world a vastly improved service, in the form of expanded coverage of the literature, rapid dissemination of bibliographical keys to that literature, and provision of convenient tools for retrospective search. The vitality of current medical bibliographic effort should be the concern of every physician and every scientist. It is hoped and believed that the profession will give vigorous support to this new program.

FRANK B. ROGERS, M.D.
Director, National Library of Medicine, Public Health Service, Department of Health, Education, and Welfare

SOME ASPECTS OF POLLEN COUNTS IN THE DISTRICT OF COLUMBIA

"The D.C. Medical Society Ragweed Pollen Count is — grains per cubic yard of air." This message, through a program sponsored by the Medical Society of the District of Columbia, has been given to the public daily during the 6-week ragweed pollination season for the past 13 years. There appears to be considerable public interest in the fluctuation of ragweed pollen concentrations. At first the counts were published by only 1 or 2 newspapers. Later the figure was carried by the Weather Bureau's automatic reporting device. Since calls to its switchboard were distracting, in later years this was dropped. Currently the count is carried by 3 local newspapers, 5 radio stations, and 1 television station. Each year representatives of these media ask to be put on our call list.

A variety of questions relative to pollen counts and other airborne allergens have been referred to us from many sources. The Weather Bureau's central office forwards queries from all over the country. These usually relate to comparison of pollen counts in various parts of the country. The D.C. count is done by a standard technic which allows comparison on a Nation-wide basis. The American Academy of Allergy has collected through its members' efforts comparative ragweed data for some 800 sites in the United States and Canada. Inquiries reach us from Government agencies, boards of trade, bureaus of commerce, and many local individuals. Business concerns are interested in relocation of allergic employees; allergy freedom is sought by families who have a severely asthmatic member; suitable vacation spots, ragweed-free, are in demand. "When should I leave? Where should I go? When may I return?" are asked repeatedly. Counts are supplied to research workers evaluating anti-allergic medications. A Japanese biologist doing research on pollen grains was put in touch with research workers in this country. Chambers of commerce or resort areas want to know whether we can expose and count slides for them and some ask for information so that they can make their own counts. Much interest in the count, like that for other aspects of weather, is simply curiosity. Some people, however, put the information to practical use, making a real point of avoiding outdoor air exposure at the peak of the season or selecting vacations or employment at strategic times in advantageous locations. Diagnosis of specific cause of allergy is considerably easier when one knows the course of pollination.

Pollen enumeration is not limited to counting ragweed pollen in the fall. For example, 3 lines of inquiry have been followed as part of the overall District study. The first was a study of all recognizable particles present in the air on a year-round basis. Washington, D.C. was one of the fewer than 20 cities so studied in 1958. In the District of Columbia in 1958, 25 different kinds of pollen were identified on our slides, and 16 fungi. Many fungous spores are missed on gravity slide studies because they are so small or because they are not shaped distinctively enough to identify. Cultures revealed many additional varieties in earlier projects. This work revealed the extent to which outdoor mold spore concentrations fall with the onset of frost and cold weather in the winter and their increase after April; the appearance of tree pollens as early as February, with the bulk of these trouble-makers reaching a peak the end of April; the course of grass pollination in May and June, with sporadic production through the summer; and the picture of ragweed, the worst offender, from about mid-August through September.

A second study was aimed at the problem of how much variation in pollen exposure exists in different metropolitan sectors and for individuals in the course of normal living. Suburban areas near uncut fields showed high ragweed pollen concentrations as compared with the standard downtown count. Otherwise area variation was not great. When pollen traps were placed on 100 people for simultaneous exposure in ragweed season a variation of 65-fold in pollen exposure was discovered. The variation related to time spent outdoors or exposure to outdoor air. Exposure was less for persons living and working in situations where the air was passed through filters, as in air-conditioning systems. The highest count was achieved by a gardening enthusiast whose home abutted a large, uncut field. Pollen slides were also exposed in many locations throughout a residence; results demonstrated clearly that as windows were approached counts increased. Slides placed in rooms kept closed caught much less pollen, and slides protected from direct drafts even in rooms with open windows were partially protected from pollen. The practical application of all this, of course, is that patients who are irritated by pollen can influence their individual exposure significantly by avoiding outdoor air exposure.

The third sphere of investigation was started this year and is an attempt to increase the accuracy of pollen counts. Measured quantities of outdoor air were forced through different kinds of pollen traps. These counts will be compared with the usual gravity counts. It will be some weeks before all the accumulated samples can be read and the results analyzed.

The work sponsored by the Medical Society of the District of Columbia is a part of a national program of voluntary work carried out by physicians and others interested in allergy. The national program is conducted by the American Academy of Allergy. As indicated above, this work is directed not only at providing the community with a comparative national pollen index and local daily counts but at investigating factors affecting individual exposure to pollen, improving and standardizing pollen counting technics, and developing a better picture of the changing seasonal patterns of airborne pollens and molds.

Eloise W. Kailin, M.D.

SUPEREROGATION AND THE PHYSICIAN

In the section on Articles of Religion in The Book of Common Prayer of the Protestant Episcopal Church there is an interesting paragraph titled "Of Works of Supererogation." The word supererogation* may be interpreted in many ways. The religious interpretation is to do "over and above God's Commandments." As physicians we might interpret this "Of Works of Supererogation" as meaning for us to do over and above the usual expected from us by our patients.

The overwhelming response from readers which followed the publication of 2 articles[1, 2] in *The Saturday Evening Post* and in *The Reader's Digest* brought home to me the one area in which we as physicians are neglectful of our patients. Rarely, in the numerous letters I received about these articles, was there any complaint of excessive fees or improper treatment. Contrary to what has been written in many articles by non-physicians and in survey reports, I found the greatest complaint of patients in all of these letters (numbering into the hundreds) was, "My doctor doesn't take time to listen to me. He is so busy he does what he has to do, gives me medicines, orders tests, and tells me when to return," and so on. These people, who represented a cross-section of the United States, felt frustrated and restrained. They wanted to unburden, to talk to their doctors, but time would not permit this.

What can we physicians do about this? Are we general physicians so busy, and is the specialist so engrossed with the superfineness of his specialty that neither one has time to listen? Is our scientific enrichment so great that we are ashamed to take time for sympathetic listening and heartfelt understanding? Do we have a scientific computer or a flame photometer to take the place of patient-to-doctor, doctor-to-patient talking and listening? And would you buy one if we had?

No, I believe as did Osler and other eminent physicians through the ages that there will never be a test, a machine, or a method to take the place of just sitting and listening to our patients. We speak very glibly of getting an accurate history from the patient and following this with a thorough physical examination. Yet when the patient (I am quoting from the letters) digresses a bit from relating his history as we physicians want it from him, he is gently, and sometimes not so gently, put back on the original trend of thought. He is not allowed to "wander" through his history-talking, as it were. The psychiatrists realize that "wandering" is good for the patient's mind and soul. People complained to me in these letters that their doctors did not have time to listen to any "asides." Yes, listening takes time, and time is a commodity in short supply with most physicians in this hurry-up world today.

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* Supererogate: To perform in excess of what is required (Webster's).

[1] Frohman, I. P.: Doctors should tell the truth. The Saturday Evening Post, June 16, 1956; abstracted, The Reader's Digest, October 1956.

[2] Frohman, I. P.: Patients should tell the truth. The Saturday Evening Post, February 21, 1959; abstracted (Tell your doctor everything), The Reader's Digest, May 1959.

Some of you reading this will no doubt probably say to yourselves that this lack of listening happens only in the case of the solo private physician. I have news for you. Patients complained that this lack of listening was just as prevalent in physicians' offices staffed by 2 or 20 doctors. The group practice physician does not have any more time for listening than does the solo practitioner. We are all at fault.

Here then is the place for supererogation for the physician. Perhaps a small sign on our desks, facing us squarely in the eye, "LISTEN, DOCTOR!" might be the solution for us and our patients.

I. P. F.

DIABETES DETECTION WEEK

Diabetes Detection Week, November 15–21, has a 2-fold purpose: (1) the detection of new diabetics, and (2) the education of the general public about basic facts concerning diabetes.

To accomplish the first, publicity directed to the public will encourage all individuals to procure a Drey-Pak test kit at their pharmacy free of charge. This kit is self-explanatory and self-addressed, ready for mailing to a central office in the Municipal Building. There, volunteer workers will perform the test and return the results to the individual, and to his physician, if the individual desires.

Second, physicians are asked to perform urinalyses on all patients they see in their offices during the week of November 15–21. Free Clinitest tablets will be supplied by the Diabetic Detection Committee on request. All members of the District of Columbia Medical Society have been contacted and asked to request the amount of test material they desire. This test material is delivered to the physician's office.

The mechanics of carrying out a community project of this type is only possible through the excellent coöperation given to our committee by the District of Columbia Pharmaceutical Association and the individual pharmacists.

The success of Diabetes Detection Week depends on the efforts of all those who participate. We appreciate your support in this public service endeavor.

Morris H. Rosenberg, M.D.
President, Diabetes Association of the District of Columbia; Chairman, 1959 Diabetes Detection Drive

A.M.E.F. CRISIS

Each year since its inception, the members of the Medical Society of the District of Columbia have increased their contributions to the American Medical Education Foundation. This year, for the first time, we are lagging badly behind last year's record.

The tremendous cost of operating medical schools continues. The benefits which physicians have derived from the schools in the past, and which they continue to derive through such media as medical journals, are too obvious to belabor. The response of each physican will be determined within his own conscience.

Send your contribution to the American Medical Education Foundation, 535 North Dearborn Street, Chicago 10, Illinois. Earmark it for the school of your preference, if you wish. Let this be the means whereby you lend your support to medical education, and to your Alma Mater!

James E. Fitzgerald, M.D.
Chairman, Medical Education Fund Committee

In and Out of Focus

BY THE OBSERVER

Reuther Meets His Match

Those who attended the hearings before the House Ways and Means Committee on the so-called Forand Bill (H.R. 4700) in July were not only enlightened but entertained. It is perhaps not necessary to remind readers that this controversial legislation would amend the Social Security Act and the Internal Revenue Code so as to provide insurance against the costs of hospital, nursing home, and surgical services for persons eligible for Old Age and Survivors Insurance Benefits.

As stated previously in this column, witnesses included leaders in many fields, among them AFL-CIO's Walter Reuther. Legislators were well aware that this shrewd, articulate, and combative labor leader is at his best in debate. This, however, did not deter Representative Bruce Alger, of Texas, from matching wits with him. It soon became evident to those present that Alger was no push-over for Reuther.

The following colloquy, reprinted from the transcript of the hearings, is an example of the sharpness of their exchange:

> "Mr. Alger: You said earlier, Mr. Reuther, that you have a great admiration and respect for the doctors who helped you in your own difficulty and you pointed out . . ., as I recall, . . . that cutting fees was a quixotic thing. Did you know that many, many doctors cut their fees and that many areas of our country provide free care for our people now, with doctors getting no fees at all?
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> "Mr. Reuther: I think there is no question that there are many, many dedicated doctors in America who are performing wonderful service to people who need it without compensation. I am aware of that. But this is not how a free people ought to deal with this basic problem. . . . Dr. Peggs [Dr. Harold J. Peggs, writing in *Medical Economics* for April 27, 1959] says very clearly that he thinks the medical societies ought to quit kidding themselves because they are not going to be able to solve this trouble by cutting fees and ultimately something approximating the Forand Bill will be adopted by Congress. I think that Dr. Peggs makes a great deal of sense and that the medical societies ought to use their good influence to try to shape the legislation along constructive lines rather than just oppose it.
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> "Mr. Alger: You get after the doctors considerably for their political activity down at the bottom of that page. I want to ask you, do you think the doctors have done a better job politically in this particular issue they are interested in than you folks do by your lobbying, on almost every legislative issue, on all of which you spend money?
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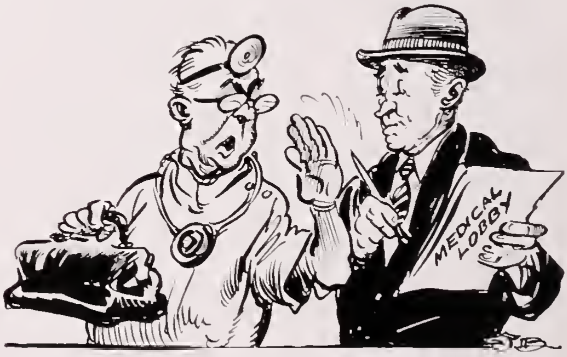
> "Mr. Reuther: You know, when I was in the hospital I had many, many bull sessions with a lot of doctors about these matters. I personally think that their best interests, the best interests of America and the best interests of the people whom they are dedicated to care for would best be served, if instead of fighting these battles in terms of words, we sat down and said, 'Now, what are the problems? What are the needs? What can we do to work together to find reasonable, sensible, and constructive ways to try to commit our resources to helping meet these needs?'
>
> "I think on that basis we can make progress. Instead of that they hire these public relations experts, Madison Avenue boys, who go out and coin slogans and waste their money. I read their stuff, the whole argument before and after Social Security was passed. It is the same old rehash, the playing of a broken record. They ought to save their money and sit down with the people who have problems and see if we can work out a joint ap-



proach. We have respect for their medical competence. The people have the need. Why can't we get together and work this thing out sensibly, and constructively?

"So my suggestion to them is to save their money and not waste it on these high-powered Madison Avenue hucksters. Let us sit down and work out an approach that we can coöperate on and we will all be better off.

"MR. ALGER: Maybe some of the union members would say the same thing about all the money you could save on legislative issues.

"MR. REUTHER: You come to our convention and you can see our union members. We have a democratic union where every member has the right to get up and talk. When they make a decision I am going out to work to carry out their programs.

"MR. ALGER: I know how you define democratic. When the gentleman from Illinois asked you about Sweden you said Sweden was the most democratic of countries; and it is a socialistic government. I suppose that is what you mean by democratic. I know that many countries in this world that disagree with us in philosophy take our same words and redefine them.

"MR. REUTHER: Is the economy of Sweden nationalized?

"MR. ALGER: You have just said that a great deal of it was.

"MR. REUTHER: Very little of it is nationalized. I said less than 10 per cent, and what has been nationalized was nationalized by the conservative government, not the labor government; the socialist government, as you call it. It was the conservative government that nationalized these basic industries, and it is a very small percentage.

"MR. ALGER: I am wandering off again. I really have some other questions.

"Before I wandered into Sweden there for a moment, you pointed out the doctors ought to save their money. The doctors have the feeling, whether you share it or not, that much good is being done in voluntary programs. They are working with insurance people trying to build better voluntary programs. You say . . . that the powerful insurance companies, and this is almost verbatim, obstruct these efforts toward this kind of a bill, not because they can do the job, but because they don't want the Government to do it. Do you really think that the insurance companies are not attempting to provide better insurance policies that will help to do this job?

"MR. REUTHER: No, I don't say that. I say that the private insurance companies oppose the Government doing anything in this field because they want to preempt this field. That is what I said. I don't think there is any question about it. The history of our efforts to get social legislation in the areas where insurance companies have an interest will demonstrate that they have opposed nearly every effort of the Government to enter these areas or to improve these programs.

"MR. ALGER: That is your viewpoint. I simply must contradict it flatly. They are not opposing this particular program or compulsory health insurance by the Federal Government just because they don't want the Government to do it, but because they reason that much better medical care can be provided by private and voluntary programs than by the Government, and you have a different viewpoint.

"MR. REUTHER: They have had all these years to do it and they haven't done it. The Government hasn't stopped them. Why haven't they met the needs on a private insurance basis or voluntary basis? They have had the field to themselves for years. Now, when the Government moves in to fill the vacuum because of their failure they cry, 'Don't let the Government do it. We will do it.' Why haven't they done it? Can you tell me that?

"MR. ALGER: Why have not the private plans done it?

"MR. REUTHER: Yes.

"MR. ALGER: They are still evolving these, as for catastrophic illness. In fact, you are, as you said, helping to evolve them. You are a member of an association that is working on voluntary private plans, and you know it takes time even to figure actuarial risks.

"MR. REUTHER: You would say they have not had time?

"MR. ALGER: I did not say they have not had time. I said it takes time to work out these new insurance programs. If you don't like the present insurance programs why do you not help work them out?

"MR. REUTHER: We have been working hard in this field, but we recognize the limitations of a private insurance approach to this basic social problem. We do not believe that you can try to put the heavy cost of this basic need upon the retired worker at the point where his needs are the greatest and his income has been drastically reduced. This is exactly why we think a private insurance approach won't work.

"MR. ALGER: Let me point out to you, though, that you have said to us earlier that there are no accurate figures to determine the coverage of health insurance protection. . . . Does it not seem more worthwhile to you to wait until the White House Conference on the Aged and we should get these figures so we have something to go on?

"MR. REUTHER: We know the need is here now. You can talk with people who have the practical need. They will tell you you don't need a survey. Every time there is a problem instead of meeting it we say: 'Let's have another survey.'

"We know enough about it now to know that the needs are not being met. Whether it is X per cent or Y per cent, we know it is serious and therefore we think we ought to have action now and not another study.

"MR. ALGER: I appreciate your view and I haven't convinced you of a thing, have I?

"MR. REUTHER: I think maybe that is mutual."

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U. S. Population—1970

Projections appearing in the *Statistical Bulletin of the Metropolitan Life Insurance Company* for June, 1959, indicate that the population of the United States, which in 1957 was 171.12 million (including Hawaii and Alaska), will be 208.42 million in 1970, or an increase of 21.8 per cent.

The *Bulletin* points out that there will be marked geographical variations in this growth The Pacific States will increase at nearly twice the rate for the country as a whole. California, for example, is expected to add more than 6 million inhabitants during this period. It is anticipated that population in that state will exceed 20 million in 1970 and that it will be the most populous state in the Union, outranking New York by a quarter of a million.

The Mountain States will also show a rapid growth. Nevada and Arizona, with increases of about two-thirds, will lead all other states in population expansion. Other states which will show marked growth will be Florida, whose population, it is estimated, will increase from 4.2 million in 1957 to 5.9 million in 1970. Maryland, Delaware and Michigan, it is expected, will increase their population by one-third.

Surprisingly, persons in the most productive ages—18 to 64 years—will be "the slowest-growing group." The estimated increase in this bracket will be one-fifth, to about 115 million by 1970. Those in the 25-to-44 group will remain unchanged because of the low birth rates of the 1930's, while the population 18 to 24 is expected to increase by two-thirds. The 45-to-64 group will increase by more than one-fifth. The number of those under 18, depending upon fluctuations in the birth rate, will increase by one-fourth between 1957 and 1970.

It is expected that the population over 65 will increase from 14.70 million to 19.60 million, "growing at a greater rate than the younger segment of the population."

The *Bulletin* notes that the new states of Alaska and Hawaii will have a relatively youthful population. there being only 5 per cent of their residents past age 65. This number is expected to decrease.

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"Shotguns... Mailings"

Some weeks ago a local newspaper made much of the fact that an AMA leaflet, critical of the Forand Bill, had been enclosed in one of the Society's mailings with a joint communication, signed by Dr. Daniel L. Finucane, Director of Public Health, District of Columbia, and Dr. Harold M. Hobart, Chairman of the Subcommittee on Child Welfare, together with a brochure calling attention to the dangers inherent in plastic bags, a notice of a postgraduate course being given at Children's Hospital, and a brief announcement of the annual meeting of the Metropolitan Washington Tuberculosis Conference.

This incident would not be worth mentioning except that it elicited a communication from a member who was critical of the Society's practice of including a variety of items in each of its mailings. He said that doctors read "selectively" and when "an assortment of unrelated items" are enclosed "some [of them] are entirely overlooked by the people to whom they are mailed." He summed up his views with this moral: "Shotguns are fine for hunting but have no place in prescriptions or mailings."

If the news item served no other purpose, it stimulated this member's communication and the decision at the Society's Executive Offices to revise its procedures in regard to mailings.

From now on they will include only Society material, and, when possible, will be limited to a single item.

It has long been the custom to coöperate with various official and nonofficial health agencies, hospitals, and other medical institutions by including their notices and documents in mailings. Usually there were no more than 2 or 3 items. It was a good-will gesture which, it appears, discouraged rather than encouraged reader interest among many members.

Recently the Society revived its monthly bulletin, which will from now on carry a list of all meetings to be held in the area that are reported to its offices. Organizations and institutions, whose notices were formerly sent to members, are being encouraged to forward information for publication in this bulletin.

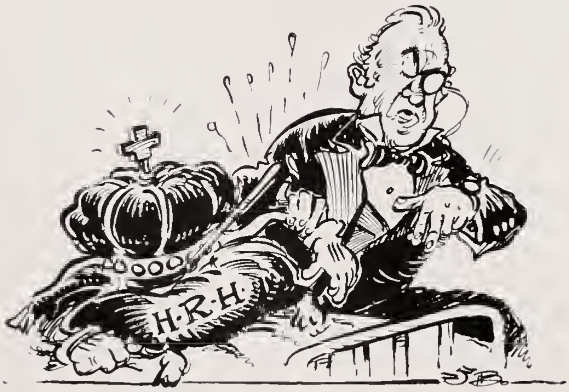
Incidentally, it is often said that much of the mail sent to Society members finds its way into the waste basket without being read. Undoubtedly this does occur but not to the extent supposed. When returns are requested in connection with a survey or a vote, it is not unusual for the response to exceed 50 per cent of the Active membership. This is satisfying evidence that the material sent members from the Society's Executive Offices is being read. However, it is hoped that the end result of the new mailing policy will be still greater interest among members in Society affairs.

Health of World Leaders

Although there were differences of opinion as to the manner in which President Eisenhower's illnesses were reported to the public, there was little room for complaint that information had been withheld. In fact, many people found some of the intimate details in the press objectionable. They questioned their good taste and the necessity for publicizing them.

Although not concerned with methods of reporting, *The* (London) *Lancet* took the position in a recent editorial that "press and public interest in the health or sickness of men in great positions does not come of vulgar inquisitiveness only; it contains a real element of sympathy and a still more evident element of anxiety."

In Britain there has always been "public anxiety about the health of the Sovereign" and it is accepted that the public should be satisfied that there is no "real threat to life or capacity."



> "Today such possibilities," *The Lancet* states, "have acquired greater importance because of the intensity of the pressure on the men at the top, and because of the gravity of the decisions which some of them are in a position to take. It is this that makes people increasingly troubled about the health of rulers, and has evoked suggestions that not only their entry to office but also their tenure of it should depend on their physical and mental fitness as judged by medical criteria."

The Lancet emphasizes that high responsibilities are usually entrusted to leaders of advanced age, who are naturally subject to chronic illnesses. The question arises whether leadership should not be entrusted to younger men. In what is termed "Socratic dialogue" this facet is explored. One of the participants in the dialogue expresses himself as follows:

> "It is true that some men appear more cautious and conservative as they grow older; but then such men were usually cautious and conservative before. But I have known men who were rebellious and unorthodox when they were young who showed if anything more of these tendencies as they grew older. I would say that, leaving disease on one side, age tends chiefly to exaggerate a man's characteristics. There are indeed some skills

> which grow better up to extreme old age, or at least no worse, as we sometimes see in artists and writers and judges, and this may be true of skill in affairs. But such men are exceptional to begin with."

On this score *The Lancet* reminds its readers:

> "Few reach high political office nowadays without having quite exceptional stamina: and one reason why such office is entrusted to them by those who know them is that over and over again, in the test of earlier life, they have been found to act reliably and in character, even if tired or unwell. Such men, who have deservedly won confidence, can be hard to replace; and when at times they show illness or strain the usual practice is to lighten their load and allow them to carry on as long as they can. But, of course, like so many other sensible arrangements, this carries a risk—the risk that loyalty and respect will encourage the leader to continue when his judgment is really impaired—when he is in fact no longer the person who was chosen.
>
> "All illness affects judgment to some extent; and so may mere fatigue, or pain, or mental distress. At some time in his life every doctor faces this problem in a personal form—in deciding whether he is fit to operate with toothache, and whether his patients will take more harm from his absence than from his presence at intellectual and mental half-pressure. . . . Probably the risk that physical illness will render an old man's judgment less objective is no greater than the risk that the stresses of private life will disturb the judgment of a younger man."

Fortunately, as *The Lancet* points out, the decision as to whether or not the leader is able to function is not one which the medical profession must make. As history has shown, even where our Presidents are concerned, the final determination as to fitness to hold office has been made by the people themselves. As long as they are free to exercise their judgment and can remove their leaders when it is only too evident that they cannot function adequately, there is no cause for concern.

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No Glamour in Inactivity

Insurance company advertisements have frequently pictured men in their 50's, forehanded enough to invest in a retirement policy in a sufficient amount, cruising in sunny climes, fishing, golfing and otherwise enjoying the fruits of their wise investment. Reveling in freedom from responsibility, they are assured of financial security and need have no concern about earning a living. This attractive prospect has lost much of its appeal, for, as many have discovered, there is nothing more disillusioning or devastating than a purposeless existence.

Not long ago your Observer had lunch with a long-time medical friend who admits to, but does not look, his three score and ten. For some years now he has spent two or three months at his summer home on one of the Great Lakes. He makes a point of the fact that he does not go there to rest but to do what he enjoys most—physical labor. He enumerates the many jobs which keep him busy from morning to night. There are screens to repair, doorbells to fix, outbuildings to be painted, boats to be scraped, and many other chores. "It is hard work," he says, "but I love it. I ask nothing more than to be able to work."

There are, of course, many ways in which men occupy themselves either for relaxation or for the more serious purpose of extending their usefulness in later years. Some, like the physician just mentioned, find it in physical activity. Others will make a full-time activity of an avocation they have had for many years. For example, a Washington physician began writing as a hobby in 1935 and has several books to his credit, including a recent Civil War novel. He is now a full-fledged and full-time writer.

Still others will carve new careers for themselves. An elderly but famous television performer said on the screen some weeks ago that at 72 he wanted to become a good actor and not just a personality. He looked forward eagerly to a new career. He thought he had the qualifications for success—good health, modest talent, and courage. On the basis of his past record one can with safety predict he will succeed. He illustrated the fact that age is no deterrent to invading new fields of endeavor, as many physicians have discovered from personal experience.

Most satisfying, of course, is, when conditions permit and where a desire is present, to carry on the vocation of a lifetime. Physicians, and, in a lesser degree, clergymen, lawyers, and educators, are fortunately more ideally situated than most people in this respect. So long as their health lasts, they can remain active.

Unfortunately, a vast majority of the population is not so favored because of the practice of enforced retirement at 65. If they have prepared themselves for this eventuality, their later years can be fruitful and satisfying. If not, unhappiness and rapid deterioration physically and mentally are in prospect.

A brighter side to this picture is that enlightened employers are beginning to recognize the fact that, as the late Dr. Edward J. Stieglitz[1] puts it, "Between different individuals there is great variation in the rate of aging." Some men at 50 may be incapable of performing their tasks because of age. Others at 70 are perfectly competent to carry on. It is, therefore, not only vitally important to the employer but to the employee to distinguish between biologic age and chronologic age.

The point of these comments is that the attitude toward retirement has changed. Financial security is no longer a goal in itself. Purposeful and satisfying activity has become the ideal for which most men in their later years wisely seek. Again, quoting Dr. Stieglitz,[2] "There is always plenty of work to be done. The lack is in man's limited imagination, rather than in nature."

T. W.

ORAL PRESCRIPTION OF PAREGORIC

Physicians will be interested in Public Law 86-206, 86th Congress, H. R. 8225, which is An Act "to amend the Uniform Narcotic Drug Act of the District of Columbia, as amended, to permit paregoric to be dispensed by oral as well as written prescription." It reads as follows:

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That section 10 of the Uniform Narcotic Drug Act of the District of Columbia, as amended (52 Stat. 790; sec. 33-410, D.C. Code, 1951 edition), is amended by striking out in the third sentence of the last paragraph thereof 'without a written prescription' and inserting in lieu thereof 'without a written or oral prescription'."

This amendment was approved August 25, 1959.

CORRESPONDENCE

BALTIMORE, MD., July 24, 1959

TO THE EDITOR:

The Medical and Chirurgical Faculty of the State of Maryland (Maryland State Medical Association) has, for many years, expressed concern over the inroads the Veterans Administration Hospitals are making into the realm of the private practice of medicine. In order to combat the fantastic growth of treatment of nonservice-connected ailments of veterans, the Faculty has passed many resolutions condemning this practice and urging that something concrete be done to curtail or stop this insidious growth.

The Faculty's House of Delegates at its 1959 Annual Meeting passed a resolution that all component medical societies of the American Medical Association be contacted and urged to support the Faculty's stand in this respect.

As a result of a letter sent to every AMA component medical society, 11 answers have been received, all in the affirmative.

It is anticipated that other societies will also reply in the affirmative and that full support to this projected, concerted action will be forthcoming from them as well.

I sincerely hope that you will see fit to publish this letter and alert your readers to the steps that are being contemplated along these lines, not the least of which is the hope that an appropriate resolution will be introduced in the AMA's House of Delegates at its Clinical Session in Dallas in December.

Sincerely,
AMOS R. KOONTZ, M.D.
Chairman, Committee on Veterans' Medical Care,
Medical and Chirurgical Faculty of the State of Maryland

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[1] STIEGLITZ, E. J.: The Second Forty Years. Philadelphia: Lippincott, 1946, p. 9.

[2] Ibid., p. 281.

Cancer Page

BRONCHOGENIC CARCINOMA

Dr. Evarts A. Graham performed the first successful pneumonectomy for bronchogenic carcinoma in April 1933. In the subsequent 20 years there was a fairly rapid increase in the number of cures by resection reported throughout the land so that the 5-year survivors actually doubled. In the past several years this improvement has ceased and we are now on a "plateau" despite steady improvement in technics. This disturbing fact can be explained by either the use of the pessimistic doctrine or "biologic predeterminism," but it is more likely due to a failure in finding early resectable cases.

Epidermoid carcinoma accounts for about 60 per cent of primary lung cancers. It occurs predominantly in males, with a ratio of 20:1 in some series. These males are often in their most productive years. The natural history of bronchogenic carcinoma is death within 7 months after diagnosis, if resection is not performed. X-ray therapy and chemicals have produced no long-term survivors.

Operability should be based on experience and judgment rather than on hard-and-fast rules, which may exclude some patients from either cure or palliation. Regardless of criteria only 1/3 of the patients with bronchogenic carcinoma have resectable lesions and are eligible for long-term cure. Pneumonectomy is the best treatment for cure, with lobectomy used only in patients with poor pulmonary reserve or for palliation. In order to be resectable the carcinoma must be discovered early. Lung cancer, however, does not produce symptoms in the victim until it is late. Cough and hemoptysis accompany incurability.

Until serologic methods are found, curable lung cancer must be diagnosed by X-ray examination. Fortunately, these tumors are often surrounded by air before they progress centrally and are thus visible on frontal X-ray films in about 50 per cent of the patients. Screening of the entire population by X-ray examination has so far proved a failure. So vast an employment of X-rays would not be tolerated by the public, which is aware of the geneticists' warnings about radiation of the gonads. Such a program would also fail simply because of the expense and work involved. If the most important group, males over 45, are screened the geneticists need have no qualms, and 50 cases of bronchogenic carcinoma per 100,000 persons will be found. The prevalence of the lesion is at least twice this, and as screening technics are improved so will the discovery rate. Effective screening is a known possibility. X-rays must be obtained every 6 months and interpreted by trained readers. The missed rate is known to be very high when unqualified readers are used.

For complete success rapid follow-up of the tumor-suspect cases is essential. Several surveys have failed in this respect. The survey-found case is asymptomatic, "healthy," and needs convincing of the urgency of his disease. Many solitary nodules of the lung are still being watched to the point of incurability despite a well-publicized study in the District of Columbia which showed that 50 per cent are cancers. Another large group are under the care of physicians who may not realize that bronchogenic carcinoma often mimics so-called atypical pneumonia. This last group alone is believed responsible for the plateau of no improvement in curability.

Cumulative survivals in bronchogenic carcinoma usually total only 9 per cent. The value of screening is shown, however, by the 35 per cent 5-year survivors in cases which are resectable. Even better is the 75 per cent survival figure in cases in which it can be shown that blood-vessel invasion is not present.

MEDICINE UNLIMITED*

GILSON COLBY ENGEL, M.D.

Professor of Clinical Surgery, Graduate School of Medicine, University of Pennsylvania; Chief, Surgical Service B, The Lankenau Hospital, Philadelphia

Future medical care of our citizens presents many major and serious problems. The problem of increased population is a very important one. At present, there are approximately 177 million people in the United States. It is estimated by the Bureau of Census that by 1975 there will be 220 million, a growth of 43 million.

This big population boost will necessitate an increase of 225,000 hospital beds at an approximate cost of $4½ billion, according to Ray E. Brown, Superintendent of the University of Chicago Clinics. Who will pay this bill?

This population gain will demand an increase in the number of physicians graduated each year. At present we graduate approximately 7,000 from the 79 medical schools. It is estimated that this number must be increased to 9,500 by 1975. This, of course, demands the development of new medical schools. Whose responsibility is this?

This increase for professional personnel goes down the line. Today there is a shortage of 101,000 registered nurses. Our present available nurses give a ratio of 258 per 100,000 population. The bare minimum estimated as necessary to do only a fair job is 300 to 100,000, with top efficiency 350 to 100,000. We are now 101,000 registered nurses below the basic needs for safety in nursing care.

At present there are estimated shortages of 13,500 dentists, 15,000 medical technologists, 10,000 dietitians, 2,000 medical record librarians, and 5,000 occupational therapists. These groups must reset their sights into the future to arrange for a gradual increase in production of the above personnel.

Another problem comes with the growing disproportion of certain age categories in this increasing population. According to the Bureau of Census, by 1975 there will be 22 million people at age 65 and over compared with 15 million in 1958, an increase of 7 million, or 47 per cent. This compares with a total population increase of only 29 per cent in the same period. Today, 1 out of 12 is 65 plus. This ratio will be 1 out of 10 by 1975. The hospital utilization of this group is 3 times the utilization under 65 years, both in higher admission rate and length of stay, according to a study by the Health Council of North Carolina. This is substantiated by figures from the Metropolitan Life Insurance Company study of 1956. This greater utilization by an increasing segment of our population, the majority of whom are nonproductive, poses a serious problem.

Unions and many welfare groups clamor that everybody should have medical care, but that does not mean a thing. Are they implying that the Government shall provide it? Or the medical profession? Or the insurance companies? What really is medicine's responsibility in this clamor which is the popular topic of social conversation?

RESPONSIBILITIES OF MEDICINE

What then are the responsibilities of medicine in this picture of increasing population, increasing costs, and a constant change in the age categories in our growing population with the tendency toward a marked increase in the nonproductive segment?

Medical training. It is obvious that medicine is obligated to increase the number of medical schools and thus increase the number of physicians graduating to parallel this increasing population. The time to start this program is now. It is medicine's responsibility to staff these new medical schools. Who is responsible for building them and outfitting them? We must be practical in our approach and medicine just cannot put up the millions for construction cost. This money must then come from wealthy individuals, foundations, or local, state or Federal government. It is just that simple.

Availability of medical care. The next responsibility concerns the availability of physicians to care for the public. This is two-fold in its application. First, the proper distribution of physicians to all areas. We all know that efforts are being made by county and state medical societies and the American Medical Association to correct this problem. This is a grass-roots problem, as is the problem of physician availability.

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* Presidential Address delivered before the Conference of Presidents and Other Officers of State Medical Associations in Atlantic City, N. J., June 7, 1959.

Too often physicians are available to their patients from 8 to 6 for 5 days a week. Anyone who goes into medicine must realize he is a public servant. No one begrudges him a day off, an afternoon or an evening off. People do complain, however, and justly so, when the doctor goes off without having his practice covered. Too many times we hear: "All the doctors in our community take Wednesday afternoon off." This can easily be corrected if local area physicians split into 2 groups, taking off different afternoons. We all know this problem is being corrected, but it does exist in some areas.

The problem of reduction of medical costs to the senior citizens is already under discussion and I am sure that the physicians will stand ready to coöperate in this movement. This alone, however, will not solve the problem of good medical care for this group and I will discuss this later.

Proper utilization of hospital insurance. The physician's responsibility in being fair with hospital insurance utilization cannot be too firmly stressed. In Philadelphia the Blue Cross, of which I am a director, set up a physicians' committee composed of outstanding doctors of medicine to check on utilization of hospitalization when it was not warranted, and also the overstaying of patients in the hospital. The patient is happy to go to a hospital for study and have every known test done. He thinks this is at the expense of Blue Cross or other insurance carriers, but actually the cost finally comes back to the hospital, and later to the patient, who must pay increased insurance and hospital rates. Physicians must police their own ranks to wipe out this practice.

Preventive medicine. The problem of educating the public on health matters and preventive medicine is, without question, the physicians' responsibility. This program is under way and ever-growing at the American Medical Association, and at state and county society levels. This project is paying and will pay even greater dividends in the health resources of this country. Preventive medicine is the theme of this program.

Medicoeconomics. The public must also be educated in medical economic affairs, and this, also, is the problem of the physician. Why are hospital costs high? With increased technology and more complicated tests and methods of treatment, all health costs rise. The public should be made to realize that no matter what the Government promises or a union promises, it will always be the citizen—the productive worker—who will pay the bill in the end. He will find it better to buy his own health, through his own doctors and hospitals, where he has freedom of choice of his hospital or physician, than depend on the Government or a union to purchase this service for him.

Physicians themselves must be fair in their charges to the public. Just because a patient has insurance is no reason to bill the regular charge on top of the insurance company's fee. This does happen in some instances, as I found when sitting on a grievance committee in Philadelphia County. Doctors must realize that they are not sacrosanct.

Annual physical check-up. Medicine must also progress on a broad front to offer the public a thorough, annual check-up. There is a growing demand for this type of service and we must be prepared to offer it to all. This is truly the ideal method of carrying out a program of health education and preservation.

The medically indigent. Medicine must further agree to shoulder the responsibility of the medically indigent. This problem is really one of the big causes of our hospital deficits, and there must be some relief for the hospital, which, after all, is the doctor's workshop. Recently in Pennsylvania, the Philadelphia Hospital Council has approached the legislature to propose a bill so that government at the state level will shoulder more of its responsibility in these cases. In the Commonwealth of Pennsylvania we have an estimated 120,000 admissions of free patients in our hospitals per year. This is 240,000 per biennium, and if the state pays at 75 per cent of per diem hospital cost, it would cost the state government $40,500,000 per biennium. This loss is now absorbed by our hospitals. This financial relief to hospitals, to care for this noninsurable group of cases, is of utmost importance if we are to maintain the survival of our free hospital system. It is unfair to expect hospitals to supply this care free of charge and to incur large deficits in the process. The doctor has, however, given freely of his services to needy cases, and I am sure he will continue to do so. This free service has been abused many times in the past, but our profession must be proud that its membership is rendering this free service to our fellow citizens who are unfortunate enough to be classed as medically indigent.

Health legislation. One big job of the profession is to concern itself with health legislation. The public will not check on this and therefore it becomes the responsibility of organized medicine. It is up to medicine to safeguard the public's interest. One is amazed at the number of bills introduced each year at state and Federal levels which have a direct bearing on the public's health. On many of these, the assemblies or the Congress have no professional advice, and it is up to the medical profession to watch the legislative hoppers and give advice on such problems.

Medical research. Finally, another serious obligation on the part of medicine is the continued expansion of medical research. Research, whether it is in industry or health, is the wealth of our future. Medicine should wholeheartedly support an ever-expanding medical research program. Through this we will create a stronger, happier and healthier nation.

The foregoing are serious obligations of medicine in 1959 preparing for a better future in 1975.

Responsibilities of the Public

Who will pay the bill for better health? And how? The question as to who will pay the bill is the easiest one of all to answer. The public, which includes every citizen, doctor, patient and politician, will pay.

In my opinion, there are 4 choices the public will have in paying the bill. The first, through taxes to pay for Government medicine. Secondly, wage deduction from the pay envelope to support the closed panel system of medicine. In these, the greatest thing in the practice of medicine is sacrificed, that is, freedom on the part of the individual to select his own doctor and his own hospital.

The third choice is to pay for services directly to the doctor and the hospital. The fourth method is to protect themselves through one of the many prepayment insurance plans. The people can decide on whether or not they want a service or indemnity type contract and purchase exactly what they want. The right of this decision rests where it should, with the individual citizen, who is, at present, and should be "master of his fate."

Costs of Medical Care for the Senior Citizens

As previously stated, there is in this country a rapidly growing group of senior citizens. This group is expected to increase 47 per cent by 1975. They are to all intents and purposes, at present, and I hope this picture will improve, nonproductive, yet their hospitalization usage is far more as to admissions rate and longer stays than any other group. They make up over 20 per cent of hospital patients. Who then is going to pay this bill? The only way these people can possibly be covered is through insurance paid for by the productive group. In other words, the productive group today pays insurance to cover their medical care when they become the nonproductive group. It would lighten the burden if the age limit could be set ahead from 65 to 70 years since many of these senior citizens actually still can and want to be productive. This would not only help the economic picture but the psychology and morale of the 65-plus group.

There are a number of hospital and health plans which have recently opened their doors to the 65-plus group and a number of Blue Cross plans will continue to carry them. The question is whether or not this section of our population can afford to pay the premiums on this insurance with their limited incomes.

There are at present 15 million people who are 65 plus and 43 per cent of these carry their own health insurance. The question as to whether or not this insurance is adequate, I cannot answer. However, I have my doubts as to its adequacy.

The estimated cost of taking care of this group for hospitalization, nursing home and surgical care is $2 billion per year at the start.

Most of those on Social Security (estimated to be 90 per cent) have low or limited incomes and with rising hospital and medical costs there will definitely be a need for help from some source. Medicine contends that this help should be the responsibility first of the individual concerned; second, the local community; third, the state government, and only as a last resort intervention on the part of the Federal Government. In 1957, 85 per cent of Social Security pensioners hospitalized had medical bills of $1,000 or more.

The cost for this type of program is fabulous. The

Flemming report estimates the first year's cost of providing up to 60 days of hospital care around $900 million, or about $990 million if maximum hospitalization were 90 days. These figures do not include administrative costs.

Nursing home care would range from about $14 million for "very limited skilled nursing home" benefits, limited to convalescent, to about $363 million based on the care of those now in nursing homes.

Inclusion of institutions giving mental, tuberculosis and chronic disease care would raise the cost to between $590 million and $885 million a year, depending on whether the charge was $10 or $15 a day. These rates, of course, would change with a depreciated dollar. These costs, as we can see, are really astronomical. In this day, however, of creating new satellites perhaps it is not out of line to be astronomical in our thinking.

This whole problem is an urgent one and demands the serious thought of every American. The medical profession, in its desire to care for the health of the Nation, has a particularly high stake in this problem, and it is mandatory for it to come up with a constructive program.

Medicine, by its ever-increasing knowledge, its application of this knowledge, its educational program, and the preaching and practice of preventive medicine, has actually created the medical economic problem found in the senior citizen group of our population. Our scientific know-how has increased way out of proportion to the economic planning in this country.

I am sure that you have been, and are becoming, more conscious each day of the serious problems which confront us. The many facets of providing better medical care for all citizens are of major importance for us as physicians.

The costs of providing these services must be borne by the individual so far as his health and the health of his family are concerned. This he may do by direct pay or some type of insurance.

Who will ultimately pay for the many new facilities and training programs necessary? This cost will be the responsibility of the tax-paying public. It will be far better and more economical for this to be done on a local level.

As for the medical care of the nonproductive group, this must become the responsibility of every productive worker in America. First, the wage-earners can pay a bigger insurance premium so that when they reach the 65-plus group they will be carried as a paid-up participant. Second, they can do it, but not as soundly or economically, by paying higher taxes to the Government to run the program.

These problems are serious, and while every doctor is deeply conscious of them, I am afraid the people of America have ignored the issues.

The lay population of the United States must awaken to the facts and help shoulder these responsibilities which deal so vitally with their own life and the lives of their families. The time for starting action is now. There is no place in this vast and serious problem for petty bickering or political maneuvering. All groups must face the facts and act with honesty and sincerity of purpose if we are to solve these problems to the best interest of all. It is the obligation of all, if we are to achieve "Medicine Unlimited."

CLINICAL CENTER STUDY ON STEIN-LEVENTHAL SYNDROME

An investigation of the role of the adrenal gland in the Stein-Leventhal syndrome has been initiated at the Clinical Center, National Institutes of Health. Salient features in this syndrome include oligomenorrhea, hirsutism and polycystic ovaries.

The coöperation of interested physicians in referring laparotomy-proven cases is invited. Referral letters or phone calls will receive prompt attention and should include detailed medical information about the patient.

Accepted patients will be studied for varying periods up to several weeks. Upon completion of their study, patients will be returned to the care of their referring physician, who will also receive a detailed narrative summary. In some instances it may be desirable to arrange for occasional follow-up visits to the Clinical Center. These would supplement rather than substitute for visits to the patient's own physician.

Physicians interested in the possibility of referring patients should write or telephone Dr. J. E. Rall, Chief, Clinical Endocrinology Branch, National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Md. (OLiver 6-4000, Ext. 4181), or Dr. Saul W. Rosen, Clinical Associate, National Institute of Arthritis and Metabolic Diseases (OLiver 6-4000, Ext. 2936).

On the Lighter Side

This page welcomes all contributions from all our readers, if it is on the lighter side. Therefore, this month we dedicate our time and your reading to 2 pieces that will make you chuckle—and your mouth to water. The first one was sent in by a doctor's daughter who reads the MEDICAL ANNALS, and who knows first hand the problems confronting many of the women in any doctor's family concerning the Battle of the Bulge. This is about a special diet that is the pet of Robert Ruark. It was designed to end all diets and to keep one happily well fed.

Breakfast: Strawberries and cream. Bacon, sausage and scrambled eggs, with hashed brown potatoes. Hot biscuits and honey. Danish pastry with your coffee, sugar and cream.

Mid-morning snack: Chocolate malted milk and cheesecake.

Lunch: Assorted *antipasto*, including stuffed artichokes, shrimps mayonnaise, and tuna fish salad. *Minestrone* soup. Spaghetti in butter sauce, followed by beef *Stroganoff* and potato salad. Hot rolls with dripping butter, string beans and hog jowl. Dessert is apple brown betty with hard sauce. Beer is the beverage.

A 2-hour nap after lunch will make you hungry, so a light snack of coconut cake with a vanilla malted will get you up to the cocktail hour. At this time do not play around with a lot of different drinks, just stick to Martinis and Manhattans. Of course you will need hors d'oeuvres to keep you from getting loaded, so dip into the onion-flavored cream cheese with your crisp potato chips. Nibble on a few sausage pigs in a pastry poke; try the pimento cheese-stuffed celery, the herring in cream, and the anchovy-stuffed olives wrapped in bacon and eaten on hot buttered biscuits and pretzels. This should get you up to a fairly late dinner, which in turn should be stout enough to get you through the long night of fasting.

Serve white wine with the goose-liver paste and thin buttered bread with lobster Newburgh and the cream of potato soup—with croutons, of course.

When the red wine is served there should be a big centerpiece of food. There is hot fried chicken with cream gravy, which may be used on both the rice and the mashed potatoes. Naturally there is corn on the cob, avocados stuffed with Roquefort dressing. You have a choice of breadsticks or French bread.

Now the dessert. This is called Ruark's Delight and is made up in the following manner. Take 1 pound of butter, the yolks of 2 dozen eggs, and mix in 4 tablespoons of brandy and a cup of honey. Grate in 6 bananas, add 2 cups of large raisins, $\frac{3}{4}$ cup of heavy cream and mix well. Bake in a slow oven for 45 minutes and serve hot with eggnog ice cream and chocolate sauce topped with whipped cream and maraschino cherries.

After dessert serve assorted cheese savories and walnuts with the coffee and the brandy or benedictine.

If you limit yourself to not more than 3 helpings at each meal, and don't consume more than 2 quarts of beer, 2 bottles of wine and 8 Martinis, you should be in great shape in no time at all.

* * * * *

The following flight of fancy was sent in by our good friend, Dr. James A. Gannon, Senior with apologies to Edgar Guest.

DOCTOR, ARE YOU MIDDLE-AGED?

If your golf score's soaring up above the 80's,
And you're weary when the 18 holes are done,
And your tennis and your bowling show a fall-off
And you don't care if you've lost or won;

When your temples show a tendency to grayness
And you see receding hairline in your glass,
And you're tired when you get up in the morning,
And you overbid a bridge hand worth a pass;

When you make a date expecting that you'll meet it,
And suddenly the lady sends regret,
And you're secretly relieved she didn't keep it,
And you hope sincerely that she will forget;

When the pounds accumulate without your knowledge,
And the exercise you should take is forgot,
And the figure that you used to have in college
Has changed and it has gone to "pot";

When your practice shows a dwindling of your profits,
And your Uncle Sam's no longer dunning you,
There's no need for a soothsayer or prophet
To tell you you're beginning to be through.

Your teeth rest in a glass of water
In preparation for the next day's "grind,"
While you dream about your conquests in the future
(Which are really truly only in your mind).

You find it hard to get to sleep at bedtime
Though wide awake to greet the morning sun.
Meanwhile you've visited the bathroom
A time or two, which wasn't any fun.

You tell events which happened in your practice
And the babies you've delivered one by one,
And successful operations you took part in,
And citations and the honors you have won.

Cholesterol percentage is important,
Also heparin, B.P. and B.M.R.
You count your pulse and then get quite excited,
And never walk when you can use the car.

You're respected and regarded by your confreres,
And your reputation's made without a doubt,
And you're happy early struggles are behind you
(In spite of diabetes or the gout).

There's a cheerful kind of leisure and contentment,
And a feeling that your wisdom will be sought
During years which follow on into the future
Until your final battle will be fought.

* * * * *

CHUCKLE NOTE: What a lot of women would like to do with last year's dress is to get into it.

J. EARL KADAN, M.D.

INCREASE IN MEDICAL SERVICE RATES

Since 1952, when Medical Service subscription rates were last adjusted, the use of services for which the Plan provides benefits has increased steadily. This year alone subscribers will receive an estimated 357,000 services and Medical Service of the District of Columbia will pay out approximately $1,100,000 more than subscribers will pay into the Plan. Also, the protection offered by Medical Service has been broadened.

The increased use of services and the broadening of coverage have made it necessary for the Board of Trustees to increase subscription rates, effective December 1, 1959. At the same time, the protection of subscribers will be broadened to provide benefits for most surgical procedures regardless of where they are performed.

Payment of the new rates will entitle subscribers to benefits for surgery performed in the home or doctor's office or in other non-hospital facilities; however, benefits will not be provided for procedures rendered as a part of a routine physical examination or in connection with prenatal and postnatal care, or for dental care, or for the surgical treatment of corns and callouses.

Out-of-hospital benefits will also be provided for the following endoscopic procedures: bronchoscope, cystoscope, esophagoscope, gastroscope, laryngoscope, urethroscope, and thoracoscope.

The new rates for established group subscribers, payable in November for protection beginning December 1, 1959, are as follows:

SURGICAL SERVICE CONTRACT

Individual Contract: $1.14 a month (an increase of 14 cents)
Family Contract: $4.36 a month (an increase of $1.16)

SURGICAL-MEDICAL CONTRACT

Individual Contract: $2.20 a month (an increase of 64 cents)
Family Contract: $6.46 a month (an increase of $1.52)

The new rates for contracts payable directly to Medical Service are as follows:

SURGICAL SERVICE CONTRACT

Individual Contract: $1.38 a month (an increase of 18 cents)
Family Contract: $5.24 a month (an increase of $1.39)

SURGICAL-MEDICAL CONTRACT

Individual Contract: $2.88 a month (an increase of 88 cents)
Family Contract: $8.40 a month (an increase of $2.50)

News and Personals

MEETINGS

The 13th Clinical Session of the American Medical Association will convene in Dallas, Tex., December 1–4. It is expected that some 3,500 physicians will attend, mainly from the southern and southwestern states.

The first National Conference on the Medical Aspects of Sports, November 30, will precede the Clinical Session. Sponsored by the AMA, this meeting is intended primarily for athletic directors, coaches and trainers, and doctors who are responsible for the health of athletes.

Dr. Raymond T. Holden and Dr. Ralph M. Caulk, the Medical Society's delegates to the AMA, are planning to attend the meeting together with Theodore Wiprud, Secretary of the Medical Society.

During the academic year 1959–60 **the Combined Pediatric Centers' Conferences,** which have been held for the previous 2 years, will be reduced to 3 in number and will become official meetings of the American Academy of Pediatrics, District of Columbia Chapter. The first of the three meetings will be held, November 19, 1959, in the Joseph Wall Memorial Auditorium of Children's Hospital at 8 p.m. The Conference will consider "Medical and Psychiatric Aspects of Pica." All physicians are cordially invited to attend.

The Section on Ophthalmology of the Medical Society of the District of Columbia will meet at the Kennedy-Warren for a social hour and dinner on December 8. Guest speaker will be Dr. DuPont Guerry III, of Richmond, Va. He will discuss "Experiences with Light Coagulation."

A Course on Pathology of Diseases of Laboratory Animals will be presented by Walter Reed Army Medical Center, December 7–11, under the direction of Colonel Fred Maurer, V.C. Place of meeting will be the auditorium and teaching laboratory of the Armed Forces Institute of Pathology.

On December 15–17, Colonel W. H. Crosby, M.C., and Lt. Colonel W. H. Moncrief, Jr., M.C., will be co-directors of a **MEND Symposium on Blood, Blood Fluids and Trauma.** The Symposium will be held in the Sternberg Auditorium.

Practicing physicians are invited to attend the lectures.

GENERAL NEWS

Dr. Preston A. McLendon presided at the regular meeting of the **Executive Board of the Medical Society of the District of Columbia,** September 14, 1959. The members of the Board authorized a contribution of $100 to the International Exposition for the purpose of trying to obtain it for Washington in 1964.

President Dunn had received a letter from Mr. Donald D. Brewer, Acting Director of Public Welfare, who reported that the term of Dr. James G. Sites as a member of the Committee on Regulations, charged with the placement of children in family homes in the District of Columbia, would expire this year. At the suggestion of Mr. Brewer, the Board voted to recommend that Dr. Sites' name be sent to the Commissioners for reappointment for a 3-year term.

President Dunn submitted the following appointees to the Committee on Postgraduate Education, which were approved by the Board: Drs. George D. Gartland, Anson R. Hyde, Arthur H. Kiracofe, August Kramm, Richard F. Manegold, Thomas W. Mattingly, Robert H. Parrott, James G. Shea, and Colonel Conn L. Milburn, Jr., M.C., U.S.A. (*Advisor*).

The District of Columbia Division of the American Cancer Society held election of officers at a meeting of the Board of Trustees following the annual meeting of the Society, September 24. Mr. Wylie W. Barrow, Treasurer of the Washington Gas Light Company, was reëlected President; Dr. William P. Herbst, Dr. G. Roger Kurtz, and Mr. Philip A. Hanigan, Jr., Vice Presidents; Mr. Frank H. Weitzel, Secretary; and Mr. Frederick P. H. Siddons, Treasurer.

Dr. Grace H. Guin, Director of Laboratories at Children's Hospital; Dr. Howard S. Madigan, of Georgetown University School of Medicine; and Dr. John Parks, Dean of George Washington University School of Medicine, were among the new electees to the Board of Trustees. Reëlected to the Board of Trustees for a 3-year term were Dr. Ralph M. Caulk, Dr. Paul B. Cornely, and Dr. Charlotte P. Donlan.

Among those elected to serve on the Executive Committee, together with the officers, were Drs. Cornely, Murray M. Copeland, Ernest A. Gould, Harry H. Kerr, Calvin T. Klopp, and Theodore Winship. Dr. J. Keith Cromer was named professional delegate to the national organization.

An Award for Distinguished Service was made to Mr. Nate Haseltine, of *The Washington Post*, for his series of articles, "Battle Report on Cancer," which appeared in May. An Award of Appreciation, presented to *The Washington Post* for keeping the public informed on cancer control, was accepted by Mr. Alfred Friendly, Managing Editor of the *Post*.

At a session for volunteers preceding the annual meeting, Dr. Madigan led a panel discussion on the Cancer Society's program of service to cancer patients.

Mr. Joseph W. Leverenz, Executive Director of the D. C. Division, recently informed the Secretary of the Medical Society that its Executive Committee had approved a grant for $4,000 to continue its aid in financing the Cancer Morbidity Review Committee during its third year of existence.

Dr. Charles D. Shields was named Fourth Vice President of the **American Congress of Physical Medicine and Rehabilitation** at the Annual Session of the Congress in Minneapolis, August 30-September 4.

Drs. Eugene G. Lipow, Charles S. Wise, and Charles R. Peterson received third award—a bronze medal—in the scientific exhibit. Their exhibit was entitled, "Traumatic Conditions of the Shoulder."

The Congress conducts an annual essay contest directed especially to interns, residents, graduate students in the preclinical sciences, and graduate students in physical medicine and rehabilitation. A cash award of $200 is presented to the person submitting the winning essay, which may be on any subject of interest or pertaining to the field of physical medicine and rehabilitation.

Free glaucoma detection tests for relatives of known glaucoma patients began in September under the sponsorship of the Prevention of Blindness Society of Metropolitan Washington. This is the first program in the United States designed specifically for those with a family history of the disease. Tests are being conducted every Wednesday and Thursday at the offices of the Society, 1025 Vermont Avenue, N.W. Appointments may be made by calling Republic 7-0378.

In memory of Dr. John Saville, resident in orthopedics at the District of Columbia General Hospital, who died on September 12, 1959, a memorial fund, to be used for the education of Dr. Saville's son, has been established. Contributions to this fund will be received by the Office of the Medical Director, Dr. John D. Schultz, D. C. General Hospital.

Dr. Saville graduated with distinction from George Washington University School of Medicine in 1953. Immediately following he served 3 years in the United States Navy. On July 1, 1959 he joined the staff of the D. C. General Hospital.

Dr. William F. Sheeley has joined the staff of the **American Psychiatric Association,** to head the APA's General Practitioner Education Program, which is supported by a grant from the National Institute of Mental Health.

Dr. Sheeley received his medical degree from the University of Chicago in 1941. He is certified by the American Board of Psychiatry and Neurology. Before coming to Washington he was Chief of Psychiatry at Minneapolis General Hospital and Assistant Professor of Psychiatry at the University of Minnesota. One of his major teaching interests has been in developing content and method for educating non-psychiatrist physicians and other professions in psychiatric principles and practices.

Dr. Arthur C. DeGraff, Professor of Therapeutics at New York University, has been named **Assistant Editor of GP,** monthly journal of the American Academy of General Practice.

Dr. DeGraff, cardiologist, received his degree in medicine from New York University in 1921. He has been the University's Samuel A. Brown Professor of Therapeutics since 1932. He will continue to reside in New York and will work with other staff members in Washington, D. C.

The National Institute of Allergy and Infectious Diseases, Public Health Service, has awarded grants totaling $127,139 to **George Washington University** to permit electron microscopic and fluorescent antibodies studies by the George Washington Arthritis Research Unit. These grants will further the long-term basic research program in rheumatic diseases being conducted at the University Hospital. They represent a major recognition of 20 years of research in this field under the direction of Dr. Thomas McPherson Brown. The research team includes Dr. Richard Fowler, Instructor in Medicine, Dr. Stewart W. Bush and Dr. William R. Felts, Assistant Professors of Medicine, and Dr. Harold W. Clark, Associate in Biochemistry.

The Health and Welfare Council of the National Capital Area has elected as its new chairman, **Attorney Bernard I. Nordlinger,** a partner in the firm of King and Nordlinger. Mr. Nordlinger is a trustee of the American Bar Association, a director of the Georgetown Children's House, and Chairman of the Legal Committee of the Jewish Social Service Agency.

The administrative offices of the **American College of Obstetricians and Gynecologists** are now located at 79 West Monroe Street, Room 1120, Chicago 3, Illinois.

PERSONALS

Dr. John Parks, Dean of George Washington University School of Medicine, was chosen President-elect of the American Association of Obstetricians and Gynecologists at its 70th Annual Meeting at Hot Springs, Va., September 11. He will assume the presidency of the Association at its next annual session in September 1960.

Dr. Robert A. Ross, Professor of Obstetrics and Gynecology at the University of North Carolina School of Medicine, is this year's president.

Dr. Donald Stubbs, Chairman of the Board of Directors of National Blue Shield, is one of 3 new appointees in the Washington area selected to serve on the Advisory Committee to the White House Conference on Aging by the Honorable Arthur S. Flemming, Secretary of Health, Education and Welfare. The membership of the Committee is now 146. The Conference will be held in January, 1961.

Rear Admiral B. W. Hogan, M.C., U.S.N., Surgeon General of the Navy, was made an honorary fellow of the International College of Surgeons at the 24th Annual Congress of the College's North American Federation, which was held in Chicago, September 13–17.

Senator Lister Hill, of Albama, was made an honorary fellow, the second time a layman has been so honored in the history of the College. Senator Hill was cited for sponsorship of the International Medical Research Bill and for his support of medicine in its efforts to maintain a high level of medical care. The only other layman to have been made an honorary fellow is Francis Cardinal Spellman of New York.

Senator Hill, newly elected Honorary member of the Medical Society of the District of Columbia, was also one of 3 recipients of the Albert Lasker Awards, presented, October 22, at the Annual Meeting of the American Public Health Association in Atlantic City. Senator Hill and Representative John E. Fogarty, of Rhode Island, were honored for "distinguished contributions" to public health through their services in Congress. The third recipient, Dr. Jules Freund, who is associated with the National Institutes of Health, was cited for studies that have clarified knowledge in immunization against tuberculosis, malaria, rabies and poliomyelitis.

Dr. Fred L. Soper, Director Emeritus of the Pan American Sanitary Bureau, received a special gold medal, September 25, for his "devotion to improving health conditions in the Western Hemisphere," during the 11th Annual Meeting of the Directing Council of the Pan American Health Organization in Washington. Dr. Soper, who is an Associate member of the District Medical Society, also received Colombia's highest decoration, the Order of Boyaca, at this meeting.

Dr. Roger Baker, Professor and Director of the Department of Urology, Georgetown University School of Medicine, was in Jerusalem, Israel, in August, where he addressed the Hadassah Medical School and organized its urologic unit. Early in September he visited Vienna, Austria, and addressed the Vienna Medical Society.

Dr. George Tievsky has been accepted into active membership in the American Roentgen Ray Society, an honorary organization whose membership is comprised of those who have made a significant contribution in the field of radiology. Dr. Tievsky is on the faculty of George Washington University School of Medicine as Clinical Instructor in Radiology.

Dr. Preston A. McLendon, Professor of Pediatrics Emeritus, George Washington University School of Medicine, chairmanned a Symposium during the 28th Annual Meeting of the American Academy of Pediatrics in Chicago, October 6. The Symposium was devoted to a Report to the Conference on the Role of the Pediatrician in the Prevention of Juvenile Delinquency. Dr. McLendon is Chairman of the Committee on Juvenile Delinquency of the national Academy.

Drs. Clayton B. Ethridge, Gerald J. Inguagiato, Alvin E. Parrish, and Peter Soyster have been asked to serve on a 9-member medical advisory committee to the Fairfax Hospital Association. The committee will assist in organizing the medical staff and in establishing a medical education program for the Fairfax Hospital, now under construction and scheduled for completion in October 1960.

At the Annual Meeting of the American College of Surgeons in Atlantic City, N. J., early in October, the following members of the Medical Society of the District of Columbia were received into fellowship: **Drs. Paul C. Adkins, S. J. Cosimano, Jr., Parker S. Dorman, John M. Keshishian, Felix D. Paolucci, and James S. Stanton.**

WOMAN'S AUXILIARY NOTES

The new president of the Woman's Auxiliary to the Medical Society of the District of Columbia is Mrs. G. Louis Weller, Jr., wife of a well known internist. Mrs. Weller was born in Philadelphia and moved to Washington with her parents in her teens. Having majored in bacteriology at the University of Pennsylvania, she has always been keenly interested in medical research and in medical problems.

Dr. Weller, a graduate of Johns Hopkins Medical School, met "Janie" when he was first on the teaching staff of George Washington University Hospital, and they were married in St. Alban's Church in June 1940.

Mrs. Weller has been active in Auxiliary work for the past 18 years, having served in almost every office and as chairman of almost every committee. Her chief interest has always been legislation, and she is constantly crusading for "Free Choice of Physician." She is a member of the Board of Governors of the Washington Club, the Executive Board of District of Columbia League of Republican Women, and the Wesley Heights Circle of the Florence Crittenton Home. She has also served on many community drives.

The Wellers live at 4848 Rockwood Parkway in Spring Valley with their 2 daughters, Jane Louis, a sophomore at Connecticut College for Women, and Cynthia, 14, a sophomore at Mt. Vernon Seminary. They are quite a literary family and even the youngest member enjoys research.

Definite plans for all activities of the Auxiliary have not yet been completed, but the various committees worked diligently through the summer, making plans for a full year.

Officers and chairmen serving with Mrs. Weller during 1959–60 are:

Officers

President-elect: Mrs. James P. Murphy
First Vice President: Mrs. Samuel A. Alexander
Second Vice President: Mrs. Charles W. Tegge
Recording Secretary: Mrs. James H. Scully
Assistant Recording Secretary: Mrs. George H. Crofton
Corresponding Secretary: Mrs. Roger S. Williams
Assistant Corresponding Secretary: Mrs. Harry N. Carlton
Treasurer: Mrs. O. Hugh Fulcher
Assistant Treasurer: Mrs. Francis J. O'Bryan

Chairmen of Committees

Advisory: Mrs. M. Noel Stow
American Medical Education Foundation: Mrs. Charles W. Jones
Bowling: Mrs. Julius J. Radice
Bulletin: Mrs. Alec A. Preece
Editor, *Newsletter*: Mrs. Thomas G. Edison
Educational: Mrs. Alexander C. Leonardo
Finance: Mrs. Julius J. Radice
Historian: Mrs. Richard H. Todd
House: Mrs. Herbert Schoenfeld
Legislation: Mrs. Samuel A. Alexander
Membership: Mrs. Duane C. Richtmeyer
Mental Health: Mrs. V. John Murgolo
Parliamentarian: Mrs. Edgar E. Quayle
Philanthropic: Mrs. Harold R. Downey
Program: Mrs. William F. Burdick
Publicity: Mrs. Barton W. Richwine
Public Relations: Mrs. Hugh O. House
Safety: Mrs. Leo C. Varden
Social: Mrs. John H. King, Jr.
Visiting: Mrs. Harold Heiges
Ways and Means: Mrs. Charles E. Horner

MEMBERSHIP

The following applicants for membership will be voted on at the December meeting of the Executive Board.

For Active Membership

William G. Battaile, Georgetown University—1953
Arvine M. Bradford, Howard University—1949
Robert F. Dyer, George Washington University—1955
Erman Wilford Edgecombe, Howard University—1945
Angelina Guido, University of Maryland—1949
John F. Hannon, Georgetown University—1953
Roy T. Lester, Tulane University—1939
William S. Lyons, George Washington University—1951
George L. Rivat, Georgetown University—1953
Herbert L. Tanenbaum, Georgetown University—1952
Alfred Pembrooke Thom III, George Washington University—1935

For Associate Membership

George Szele, University of Budapest (Hungary)—1952
Nelson Monroe Tart, George Washington University—1955

For Affiliate Membership

Nicholas M. Azzato, University of Chicago—1947

For Resident-Intern Membership

Bernard L. Albert, George Washington University—1958
David Hodges Dabney, Howard University—1955

Recent changes in membership status:

Affiliate to Associate

Robert L. Norment

Associate to Affiliate

Herman Eisenberg

Resident-Intern to Associate

Alvin Szojchet
William H. Wallop

Resigned
Active

Addison M. Duval
Charles E. Horner

Associate

Norvell Belt
Rex E. Buxton
Leo B. Schneider
Rebecka Schneider

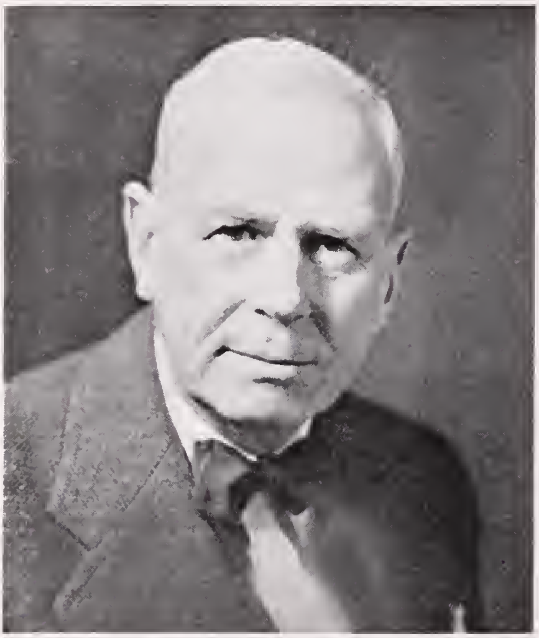
JOSEPH JOSHUA MUNDELL, M.D., F.A.C.S.

(1879–1959)

Dr. Joseph J. Mundell, Life member of the Medical Society of the District of Columbia and Professor Emeritus of Obstetrics at Georgetown University, died suddenly, August 30, 1959, at Ocean City, Maryland, where he was on vacation. His home and offices were at 1616 Rhode Island Avenue, N.W.

Dr. Mundell was born in Anacostia, D. C., December 22, 1879, to Benjamin M. and Catherine E. Rose Mundell. He graduated from Eastern High School. From Georgetown University he received his degree in medicine in 1903. He interned at Providence Hospital the following year and also for 2 years at Columbia Hospital for Women, from 1904 to 1906. For many years he was attending obstetrician at Columbia Hospital and attending gynecologist at Providence Hospital. His warm personality endeared him to both patients and colleagues.

Dr. Mundell was engaged in private practice, specializing in obstetrics, for about 10 years. In 1916 he was appointed Chief of the Obstetrics and Gynecological Section of the Naval Dispensary, where he continued on duty until his retirement in 1946. During World War II he was commissioned Navy Commander; he was retired with the rank of Captain. He was consultant to the Naval Hospital in Bethesda until his death.



JOSEPH J. MUNDELL, M.D.

In 1934 he became Professor of Obstetrics and Head of the Department of Obstetrics at both Georgetown University School of Medicine and Hospital, after having been an associate in that department for many years.

Dr. Mundell was elected to membership in the Medical Association of the District of Columbia in 1905 and to the Medical Society of the District of Columbia in 1907. He became a Life member of the Society in 1946. He was a diplomate of the American Board of Obstetrics and Gynecology, a charter member and Past President of the Washington Gynecological Society, a Fellow of the American College of Surgeons, and a member of the Georgetown Clinical Society. He was one of the first members elected to the Georgetown Chapter of Alpha Omega Alpha. His social clubs included Chevy Chase, Army-Navy and Gibson Island. He contributed some 50 articles to the literature.

Dr. Mundell leaves his wife, Mrs. Anne Swart Mundell, of the home address; two sons, The Reverend James W. Mundell, a Maryknoll Missioner who only recently returned from Chile, and The Reverend Joseph J. Mundell, serving at Sacred Heart Parish; two daughters, Mrs. Mary Catherine Coffey, whose husband, Dr. Robert J. Coffey, is Chief of Surgery at Georgetown, and Miss Anne Swart Mundell, of Washington. Also among the survivors are a brother, Mr. Benjamin M. Mundell, Jr., and a sister, Miss Mabel Mundell, of Washington. A nephew, Dr. Benjamin J. Mundell, an Active member of the Medical Society of the District of Columbia, was associated with him in practice.

LEONARD GEORGE ROWNTREE, M.D., Sc.D., F.A.C.P.

(1883–1959)

Dr. Leonard G. Rowntree died in Miami, Florida, June 2, 1959. Dr. Rowntree was formerly Chief of the Department of Medicine of the Mayo Foundation and head of a section of medicine at the Mayo Clinic in Rochester, Minn.

During World War II he served as Chief of the Medical Division of the Headquarters Office of the Selective Service Division in Washington, D.C. (1940–1945). During that time he affiliated with the Medical Society of the District of Columbia as an Associate member. In recognition of his distinguished War service he was elected to Honorary membership in 1946.

Dr. Rowntree was born in London, Ontario, April 10, 1883, the son of George and Phoebe Martendale Rowntree. He received two degrees from the University of Western Ontario Faculty of Medicine—Doctor of Medicine in 1905 and Doctor of Science in 1916.

In 1906 Dr. Rowntree came to the United States to establish a practice in Camden, N.J. The following year he joined the faculty of Johns Hopkins University School of Medicine as voluntary assistant in pharmacology and experimental therapeutics. Subsequently, he served on the faculty in various capacities until 1914, when he was appointed Associate Professor of Medicine.

During World War I he served as Lieutenant Colonel in the Medical Corps of the U. S. Army.

From 1916 to 1920 he was Professor and Chief of the Department of Medicine of the University of Minnesota School of Medicine, in Minneapolis, and from 1920 to 1932 was Professor of Medicine and Chief of the Division of Medicine at the Mayo Foundation Graduate School, University of Minnesota, in Rochester, Minn., and senior medical consultant and Director of Clinical Research at the Mayo Clinic. From 1942 to 1946 he was Director of the Philadelphia Institute for Medical Research and research clinician at the Philadelphia General Hospital.

Many honors were conferred upon Dr. Rowntree during his lifetime. He received the annual Strittmatter Award from the Philadelphia County Medical Society for his work on the thymus gland, cancer and arthritis. In 1944 he was awarded the Banting Memorial Medal by the American Diabetes Association. President Truman conferred upon him the Medal of merit in 1945. In 1958 he was awarded the honorary degree of Doctor of Letters by the University of Miami.

He was Past President of the American Society for Clinical Investigation and the American Society of Endocrinologists. He was a Fellow of the American College of Physicians, a diplomate of the American Board of Internal Medicine, a member of the American Medical Association, American Association for the Advancement of Science, Alumni Association of the Mayo Foundation, and many other scientific organizations. He was Chairman of the Section on Pharmacology and Therapeutics of the AMA in 1920–21, a member of its House of Delegates in 1922–23, and from 1916 to 1936 was a member of the Council on Pharmacy and Chemistry.

He was married to the former Katherine Campbell; there are two daughters, Jean Elinor Rowntree and Mrs. Laird H. Wallace.

The story of his life and career, "Amid Masters of Twentieth Century Medicine: A Panorama of Persons and Pictures," was published in 1958. An excellent summary of his career appears in the August 29, 1959, issue of *The Journal of the American Medical Association.*

WILLIAM L. KELLER, M.D., F.A.C.S.

(1874-1959)

Colonel William L. Keller, M.C., U.S.A., Chief Surgeon at Walter Reed Army Hospital for 16 years, died, July 10, 1959, at the Hospital following a long illness. Known as the "grand old man of Army medicine," he had spent the greater part of his professional career at Walter Reed. When he retired in 1935, after a military service of 35 years, the Congress of the United States passed special legislation making him consultant in surgery to Walter Reed for life.

Dr. Keller was born in Connecticut, March 24, 1874. He was graduated from the Medical School of Virginia in 1899, and the following year became a contract surgeon with the U. S. Army. He was commissioned in the Army Medical Corps in Manila in 1902 during the Philippine Insurrection.

During World War I he was assigned to the American Expeditionary Forces as Director of Professional Services. In this capacity he developed such new advancements as the traction-fixation splint, a device now considered standard equipment in ambulances and hospital emergency rooms throughout the country. Following World War I he was awarded the Distinguished Service Medal. He was also decorated by the British Government and made an officer in the French Legion of Honor.

In 1953 Colonel Keller was paid another high tribute when an annual lecture series at Walter Reed was named in his honor. The William L. Keller Memorial Lecture is presented each year at the Army Surgeon General's meeting.

Colonel Keller was a Senior Fellow in the American Surgical Association, a Fellow of the American College of Surgeons, and a member of the American Association of Thoracic Surgeons.

Surviving him are his wife, Mrs. Sara Keller, of the home address, 2930 Foxhall Road, N.W., and one son, John G. Keller, a Washington attorney residing at 5212 Albemarle Street, N.W.

JACOB SONTHEIMER ROSENTHAL, B.S., M.D.

(1893–1959)

Dr. Jacob S. Rosenthal, practicing Washington physician since 1927, died in Sweetwater, Tenn., September 5, 1959, en route home from a vacation in Hot Springs, Arkansas.

Dr. Rosenthal was born in Lexington, Miss., December 5, 1893, to Henry A. and Carrie Sontheimer Rosenthal. He graduated from the University of Mississippi in 1913, with a Bachelor of Science degree and received his medical degree from Tulane University in 1915. Following graduation he spent 4 years on active duty with the U. S. Navy during and following World War I. He practiced medicine in Norfolk, Va., from 1921 to 1926.

Before moving his practice to the District of Columbia, he enrolled for postgraduate study in urology at New York Postgraduate Hospital. His offices were in the Farragut Medical Building and his home at 2737 Devonshire Place, N.W.

Dr. Rosenthal was an Active member of the Medical Society of the District of Columbia from 1927 to 1934 and again from 1944 to 1957. He was also a Mason and a member of the Order of the Elks.

Surviving him are his wife, Mrs. Annette Liebman Rosenthal, and a son, Jacob S. Rosenthal, Jr., of Chevy Chase, Md.

Tolbutamide in Surgery—Canary et al

(*Continued from page 617*)

SUMMARY

The response to major surgery of a group of 13 late-onset, tolbutamide-responsive diabetic patients has been studied. A favorable course was found in all despite the administration of intravenous glucose in some for periods of from 4 to 5 days and cessation of oral medication for the same period of time.

The stress of major surgery alone does not seem to be an indication for discontinuing tolbutamide therapy and the substitution of insulin.

The effects of intercurrent infection in the postoperative period are advanced as the major reason for loss of diabetic control in such patients postoperatively, and such infection represents a definite indication for insulin therapy when it occurs.

BIBLIOGRAPHY

1. Williams, R. H., and Henley, E. D.: Recent studies relative to the treatment of diabetes; special reference to new oral antidiabetic drugs. A.M.A. Arch. Int. Med., 1957, **99**, 501.
2. O'Donovan, C. J.: New orally effective adjuvants in the management of diabetes mellitus. J. Chron. Dis., 1956, **4**, 635.
3. Best, C. H.: BZ-55 (carbutamide): experimental and clinical studies of oral antidiabetic agent: experimental studies; insulin adjuvants or substitutes. Canad. M. A. J., 1956, **74**, 957.
4. Levine, R., and Duncan, G. G.: Symposium on clinical and experimental effects of sulfonylureas in diabetes mellitus; editorial statement. Metabolism, 1956, **5**, 721.
5. Loubatières, A.: Use of certain sulfonamides in the treatment of experimental diabetes mellitus. Ann. New York Acad. Sc., 1956, **67**, 187.
6. Loubatières, A.: Hypoglycemic sulfonamides: history and development of the problem from 1942–1955. Ibid., 1957, **71**, 4.
7. Sugar, S. J.: Use of the sulfonylureas in diabetes mellitus. Ibid., 1957, **71**, 256.
8. Knox, L. J., Harrison, C. W., and Doengs, J. P.: Use of an oral hypoglycemic agent as an adjuvant in the treatment of diabetes mellitus. Illinois M. J., 1957, **112**, 201.

MULTIPLE CANCER TYPES INDUCED BY A SINGLE VIRUS

SARAH E. STEWART, M.D.

Research Scientist, National Cancer Institute,
National Institutes of Health, PHS

Monday, December 7, 1959, 8:00 p.m.

Place: District Medical Society's auditorium, 1718 M Street, N.W.

Sponsor: The Saint George Society (tri-University student organization)

MEDICAL SOCIETIES WITH LIMITED MEMBERSHIP

WASHINGTON, D. C.

1959–1960

Society	President	Secretary	No. Meetings per Year	Date of Meetings	Place of Meeting
Academy of Medicine of Washington, D. C.	C. R. L. Halley	E. C. Albritton	3	On call	
Allergy	M. Fuchs	F. J. Murray	3	Nov., Feb., May	MSDC Building and Washington Hospital Center
American Academy of General Practice, D. C. Chapter	B. Miller	W. R. Perkins, Jr.	4	Oct., Dec., Mar., June	MSDC Building
American College of Chest Physicians, Potomac Chapter	M. B. Kress, Baltimore	J. W. Peabody, Jr.		On call	
American Federation for Clinical Research, D. C. Chapter	L. S. Lilienfield	H. W. Schnaper	5	Oct. 12, Dec. 7, Feb. 1, Apr. 4, June (?)	MSDC Building
American Medical Writers' Association, Mid-Atlantic Chapter	R. P. Odenwald	A. L. Eckburg	3	On call	
Clinical Club of Washington	M. J. Fischer	O. T. Englehart	8	1st Tuesday	Kennedy-Warren
Clinico-Pathological	W. S. Anderson	F. D. Chapman	8	3rd Tuesday	Homes
Diabetes Association	M. H. Rosenberg	L. K. Alpert	1	May	MSDC Building
Georgetown Clinical	J. J. Kuhn	R. J. Meyer	8	3rd Wednesday	Kennedy-Warren
George Washington University	F. Y. Donn	M. P. Goumas	1–2	On call	MSDC Building
Hippocrates-Galen	J. B. Harrell	R. D. Whitley	6	1st Thursday, Oct., Nov., Dec., Feb., Mar., Apr.	Kennedy-Warren
International Medical Club	J. W. Watts	A. A. Morris, Jr.	4	On call	Mayflower Hotel
Jacobi	S. W. Kirstein	H. Ammerman	10	3rd Monday	Willard Hotel
Jefferson Medical College Alumni Association	E. J. Gordon		2	Nov., May	
Kober	K. H. Wood	J. C. Murphy	8	3rd Monday	Army-Navy Club
Louis Mackall	J. H. Peacock	R. M. Roll	7	3rd Thursday	Kennedy-Warren
Medical Arts	T. F. Williams	G. K. Palmes	8	2nd Thursday	Kennedy-Warren
Metropolitan Health Officers' Association	W. J. Peoples	M. Grant	4	3rd Wednesday, Sept., Dec., Mar., June	Prince Georges Country Club
Northern Virginia Academy of Surgery	M. A. Puzak	C. V. Amole	3	Oct., Jan., Apr.	
Osler	H. V. Rizzoli	B. Nelson	8	3rd Monday (except Dec. 14)	Homes
Pan American Medical Society of D. C.	J. O. Warfield, Jr.	J. H. Scully	6–7	On call	
Physician-Veterans of World War II	J. O. Nestor	R. A. Osbourn		On call	
Providence Hospital Doctors Alumni Association	C. F. Hill	F. D. Paolucci	24	1st and 3rd Mondays	Providence Hospital
Rheumatism	J. E. Seegmiller	E. T. Phelps	7	On call	Old New Orleans Restaurant and MSDC Building
Saint Elizabeths	L. Salzman	L. D. Robinson	3	Oct., Jan., Apr.	St. Elizabeths Hospital

(Continued on next page)

MEDICAL SOCIETIES WITH LIMITED MEMBERSHIP—*Continued*

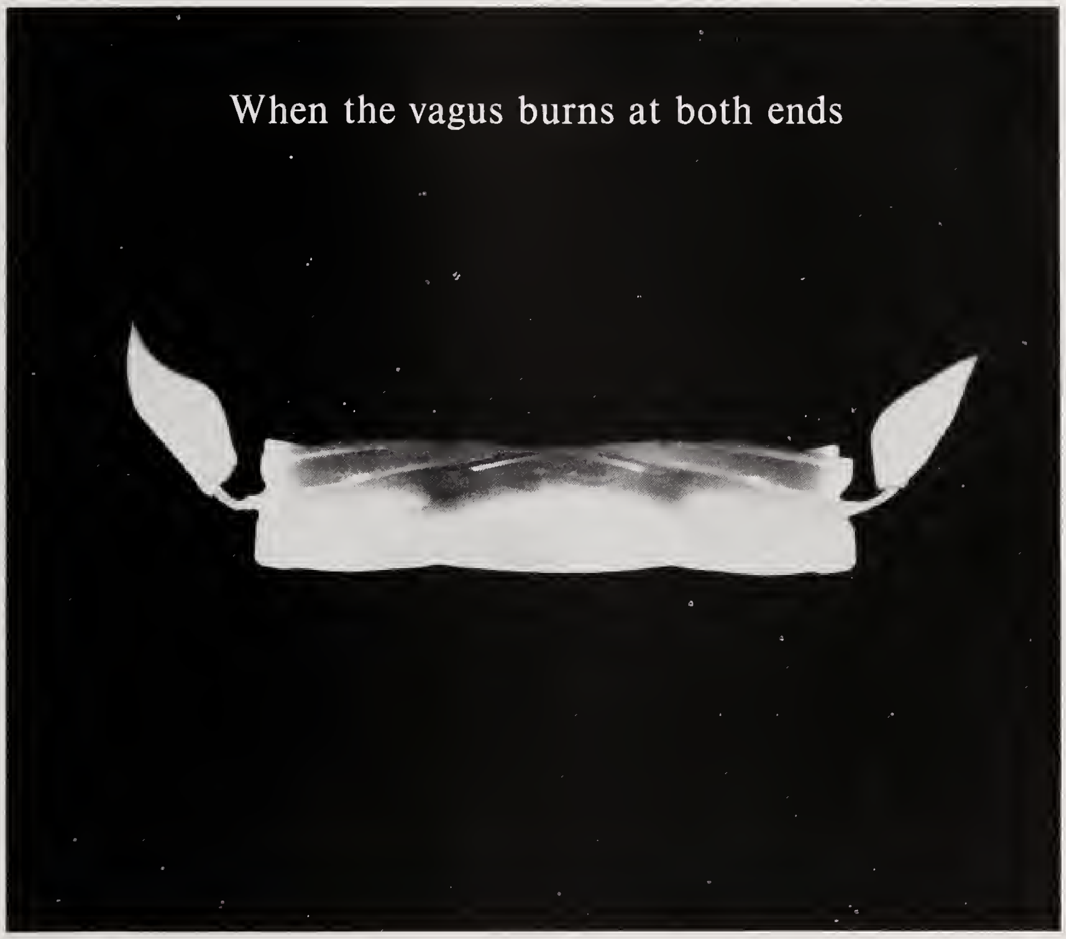
Society	President	Secretary	No. Meetings per Year	Date of Meetings	Place of Meeting
Society of Anesthesiologists	J. J. Leahy	E. N. Chapman	4	On call	MSDC Building
Society of Internal Medicine	B. Manchester	F. S. Bacon	1	November 10	MSDC Building
Trudeau	J. J. Feffer	J. P. Mann	4	On call	
Washington Academy of Neurosurgery	J. P. Gallagher	G. M. Swain	4	Nov., Jan., Mar., June	
Washington Academy of Surgery	L. B. Gaffney	J. B. Harrell	5	2nd Monday, Oct., Dec., Feb., Apr., May	Kennedy-Warren
Washington, D. C. Dermatological	J. C. Shafer	R. S. Higdon	7	4th Thursday	
Washington Gynecological	J. L. Parks	R. B. Nelson	5	Oct., Dec., Jan., Mar., May	Columbia Country Club and Willard Hotel
Washington Homeopathic	W. P. Baker	H. H. Custis, Jr.	2	Oct., May	Columbia Country Club
Washington Medical and Surgical	R. R. Stevenson	P. P. Andrews	6	4th Monday, Oct., Nov., Jan.–Apr.	Army-Navy Club
Washington Orthopedic Club	A. S. Lloyd	T. M. Foley, Jr.	7	1st Monday	MSDC Building
Washington Psychiatric	N. Taub	L. Yochelson	7	4th Friday, Oct., Nov., Jan.–May	
Washington Psychoanalytic	S. L. Olinick	R. C. Burnham	8	2nd Friday	1720 M Street, N.W.
Washington Society of Pathologists	T. B. Dunn	D. L. Weiss	8	Oct. 5, Nov. 10, Dec. 2, Jan. 7, Feb. 1, Mar. 1, Apr. 6, May (?)	Armed Forces Institute of Pathology
Washington Urological	M. A. Puzak	G. R. Gable	6	Every 6 weeks	Doctors Hospital
Women's Medical	A. J. Speer	A. F. Alberti	7	1st Tuesday	

NOTE: Most of these societies begin their meetings in October and continue through April or May.

SECTIONS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

1959–1960

Section	Chairman	Secretary	No. Meetings per Year	Date of Meetings	Place of Meeting
Anesthesiology	J. J. Leahy	E. N. Chapman	4	On call	MSDC Building
Dermatology and Syphilology	L. B. McCaleb	W. M. Willett		On call	MSDC Building
Gastroenterology	A. F. Castro	E. S. Witowski, Jr.	4	1st Monday, Oct., Dec., Feb., Apr.	Kennedy-Warren
General Practice	B. Miller	L. A. Klein	4	4th Tuesday, Oct., Jan., Mar., May	MSDC Building
Internal Medicine and Allied Subspecialties	J. J. Wallace	F. S. Bacon	1	Nov. 10	MSDC Building
Neurology, Neurosurgery, and Psychiatry	M. C. Korengold	T. L. Auth	6	Oct., Nov., Jan., Feb., Mar., May	MSDC Building
Ophthalmology	W. J. Romejko	P. E. Zehfuss	4	Oct. 27, Dec. 8, Feb. 9, Apr. 4	Kennedy-Warren
Otolaryngology	M. E. Krucoff	A. J. DeLaney	4	2nd Tuesday, Nov., Jan., Mar., May	Army-Navy Club
Pathology and Laboratory Medicine	C. B. Cook	G. H. Guin	9	4th Friday	Homes and MSDC Building
Pediatrics	R. H. Todd	S. L. Leikin		On call	Children's Hospital
Radiology	G. Tievsky	W. E. Sheely	4	3rd Wednesday, Jan., Mar., May, October	MSDC Building



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Book Reviews

Medical Department, United States Army: Cold Injury, Ground Type. Editor in Chief: Colonel John Boyd Coates, Jr., M.C.; Associate Editor: Elizabeth M. McFetridge, M.A. Prepared under the direction of Major General S. B. Hays, The Surgeon General, United States Army. Pp. 570. Washington 25, D. C.: Superintendent of Documents, U.S. Government Printing Office, 1958.

This well illustrated and well documented book of 570 pages quite thoroughly presents the problem of cold injury (chilblains, shelterleg, immersion foot, trench foot and frostbite), particularly as it affected the United States Armed Forces during World War II.

Starting with an historical note going back to references in the writings of Hippocrates, it covers most of the past wars and finally presents a rather complete record of its occurrence in the various theaters of operations in World War II, with ample use of Army records. The epidemiology, pathophysiology, clinical pictures, treatments and results and recommendations for prevention and control are discussed in considerable detail.

It is an excellent reference book for anyone interested in any phase of the problem and will probably be "the book" on the subject for a long time.

John N. Shadid, M.D.

Surgery of the Foot. Henri L. DuVries, M.D. Price, $12.50. Pp. 494, with 403 illustrations. St. Louis: Mosby, 1959.

"Surgery of the Foot" by DuVries is unusual in that the author, who has devoted many years to foot surgery, presents the simple operations didactically. He states in his preface that the teaching of orthopedics in medical schools does not allot sufficient time to problems of the foot, and therefore he believes that his instructive approach and the elementary portions of the contents would be welcome.

The chapter on diagnosis and examination is well done and is recommended not only for the general practitioner, general surgeon, and the resident, but also for the orthopedist, even though he may not do pedographs or possess a jeweller's eyeglass, both of which the author uses to advantage.

The chapter on disorders of the skin in foot disability is succinct and, to this reader, was definitely instructive. "Ingrowing toenails" is adequate and is an excellent guide to proper handling, both conservatively and radically, of this troublesome condition. The glossary of terms for pathologic conditions of the nail is a convenient method of recalling such obscure terms as onychomadesis and onychorrhexis.

The chapter on disorders of the tendons is somewhat superficial, as is the section on congenital defects and anomalies.

Sections devoted to surgery, other than that of static deformities, particularly "bunions," also lack good exposition and solid presentation.

The illustrations are adequate, simple, and instructive, while the text is sufficiently explicit for its purpose. The reproductions of the roentgenographs are excellent.

In general, this book is recommended, because of its simplicity and didactic approach, for those of us who have either forgotten, or had not satisfactorily learned, simple surgery of the foot.

Eugene G. Lipow, M.D.

Preventive Medicine—Principles of Prevention in the Occurrence and Progression of Disease. Edited by Herman E. Hilleboe, M.D., and Granville W. Larimore, M.D. Price, $12.00. Pp. 731, with 59 illustrations. Philadelphia: Saunders, 1959.

This is an excellent text, although it does not, in the opinion of this reviewer, "outline a practical guide to physicians who are willing to incorporate preventive medicine as an integral part of their day-by-day practice," which the editors give as the main purpose of the book. However, the privately practicing physician who consults this text will find in it much of interest to him, particularly if he has concern for the issues of health beyond those of any individual patient. He should gain some appreciation of the complexity of public health programs and services which may be allied with him in his "efforts to overcome the forces hostile to health." He will likely agree with the editors that the public health physician and the private practitioner are not competitors but complementary agents in pursuing the objectives of preventive medicine.

In the preface, the editors suggest that the main theme of the book "distinguishes between the prevention of occurrence of disease and disability and the prevention of their progression." The intended theme is reflected in the division of the book into 3 parts.

The first part of the book, entitled "Prevention of Occurrence," contains 23 chapters. Among these are 11 chapters on subjects grouped together under control of environmental factors; 6 chapters in a section on prophylactic measures against diseases; 1 chapter on

(*Continued on page 66*)

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Book Reviews

(*Continued from page 62*)

nutrition; 3 chapters on elimination of pre-disease conditions; and 2 chapters on preventive dentistry.

The main theme of the book is carried through Part II, "Prevention of Progression," which has 10 chapters. The first one of these is on public health inventories. The next 5 are on screening methods in the early detection of disease. Then follow separate chapters on follow-up of screening and diagnostic examinations, rehabilitation, alcoholism, and narcotic addiction.

The third and final part of the book contains 8 chapters on supportive services for preventive medicine. Three of these chapters are on aspects of education; the remaining 5 are on social work, public health nursing, the hospital in preventive medicine, epidemiologic methods and inferences, and official and voluntary health agencies. Of particular merit is the chapter on Epidemiologic Methods and Inferences by A. M. Lilienfeld.

This book is recommended to any physician who is interested in helping to advance effective health programs in his community. Certainly physicians in liaison work with public agencies engaged in health should avail themselves of this as a reference book.

MARVIN E. PERKINS, M.D.

An Atlas of Normal Radiographic Anatomy, 2nd ed. ISADORE MESCHAN, M.A., M.D. With the assistance of R. M. F. FARRER-MESCHAN, M.B., B.S. (MELBOURNE, AUSTRALIA), M.D. Price, $16.00. Pp. 759, with 1446 illustrations. Philadelphia: Saunders, 1959.

In keeping with its title, this book presents a thorough coverage of its subject. In addition, it provides chapters on the fundamentals of X-rays, protection and permissible dosage, and the development of bone. The last of these includes charts and tables on ossification centers. These chapters are well done and helpful.

In carrying out the specific purpose of the book, the procedure is to start with conventional, anatomic views from standard texts on anatomy, followed by tracings of radiographs illustrating osseous changes in different age groups. Then come descriptions and sketches of radiographic positioning together with the corresponding radiographs. These in turn are accompanied by well-labeled anatomic diagrams of the same projections. Thus radiographic technics are well combined with detailed anatomic presentations.

Special methods relative to the brain, spine and various systems are comprehensively dealt with.

The type is clear and of good size—easy on the eyes. Illustrations are of high quality. In general, the book fulfills its purpose in excellent fashion and should prove of wide usefulness. I am very glad to have it myself.

C. F. BEHRENS, M.D.

(*Continued on page 68*)

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Book Reviews

(Continued from page 66)

Synopsis of Treatment of Anorectal Diseases. Stuart T. Ross, M.D., F.A.C.S., F.I.C.S. Price, $6.50. Pp. 240, illustrated. St. Louis: Mosby, 1959.

This is another volume in the Mosby "Synopsis Series." It is extremely terse and shorn of all discussions, pros or cons, and alternate methods of treatment. The author is unquestionably qualified to make arbitrary and sometimes dogmatic statements and conclusions, but one wishes the results were not quite so oversimplified or brief. There are 27 chapters covering every phase of proctology (anatomy, examination, constipation, hemorrhoids, condylomas, cryptitis, abscess, stenosis, pruritis, colitis, irritable colon, benign and malignant tumors, etc., etc.). The average chapter is between 4 to 6 pages, including illustrations. The entire book is only 240 pages, which attests to its comprehensive coverage and brevity.

There is certainly a need for a briefer textbook on proctology than has been available until now, but the general practitioner and medical student, toward whom, admittedly, this book is written, will derive only a cursory idea of the field and without any help in appreciating its complexities and pitfalls. The proctologist and surgeon would have little or no use for it.

Thomas M. Wright, M.D.

Surgery of the Prostate. Henry M. Weyrauch, M.D., F.A.C.S. Illustrated by Halcyon Harris Cowles and Ralph Sweet. Price, $15.00. Pp. 535, with 288 illustrations. Philadelphia: Saunders, 1959.

Dr. Weyrauch, Clinical Professor of Surgery (Urology) at Stanford University, has endeavored to "state the general principles of prostatic surgery and techniques based on these principles." He has succeeded in a compact and simply written text that will serve as a helpful reference for anyone concerned with this aspect of urology. It is a timely book, coming at the end of a half-century which has witnessed revolutionary advances in treatment of prostatic disease and when these advances should be evaluated from this perspective. Today some operations upon this gland, particularly for benign hyperplasia, almost have become stereotyped, and this should not be the case for the thinking man.

The general theme is enhanced by a chapter on the broad historical background, including obsolete methods. Detailed attention is given to pre- and postoperative care, fluid and electrolyte control, catheter management, and to complications, all of which so often determine the ultimate result in operations upon the urinary tract. There is a brief but adequate chapter describing surgical pathology, one on diagnosis, and one on indications for surgery.

The 4 modern approaches are dealt with in detail, describing alternate methods and modifications of the fundamental ones. Perineal, suprapubic, retropubic, and transurethral routes are considered with proportionate care, and indications for their use are offered without partiality. Illustrations, so important for an operative text, are generally fair. They are drawn for the most part by 2 artists, Halcyon Cowles and Ralph Sweet. Some have been reproduced from previous publications and other sources. This is not a serious detraction, however. There is one very obvious error in the description and illustration of the Vest closure for total prostatoseminal vesiculectomy, which should be noted.

Altogether, Dr. Weyrauch's book can be recommended as a valuable addition to the urological surgeon's library.

Leon R. Culbertson, M.D.

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GENERAL PRACTICE NUMBER

This is the fifth of a series of special numbers of the MEDICAL ANNALS, the scientific material for which is supplied by medical institutions and scientific organizations in the Washington Metropolitan Area. For the GENERAL PRACTICE NUMBER, the Editorial Board is indebted to Dr. Lewis A. Klein, Program Chairman of the District of Columbia Chapter of the American Academy of General Practice, who secured the papers which appear in this issue. They were presented during a Symposium on Clinical Medicine at the Hotel Statler-Hilton in Washington, D. C., May 7, 1959, under the sponsorship of the District of Columbia Chapter of the American Academy of General Practice, the Maryland Academy of General Practice, and the Washington Branch of the American Medical Women's Association.

THE MALABSORPTION SYNDROMES*

MICHAEL J. LEPORE, M.D.

Assistant Clinical Professor of Medicine, Columbia University College of Physicians and Surgeons; Assistant Attending Physician, Presbyterian Hospital, New York

THE TERM malabsorption syndromes is one of fairly recent vintage applied to a wide variety of old and new clinical entities, some rare and some very common. Its application to the more unusual entities such as idiopathic steatorrhea has led to its association with rare and seldom encountered diseases. However, in its broader sense, the term encompasses a wide variety of common as well as uncommon digestive disorders characterized by defective digestion, utilization or absorption of one or more ingested foodstuffs, minerals, or vitamins. Of all of the malabsorptive defects, perhaps the most significant is steatorrhea, since it almost certainly means that a diffuse and real disturbance of absorption exists involving other substances as well as fats.

The term steatorrhea was originally intended to apply to the presence of grossly visible fat in the stools. With the passage of time the term has been amplified to include the presence of excess fat in the feces whether visible or demonstrable only by chemical or microscopic examination. A normal adult human on a mixed diet containing 50 Gm. of fat excretes 2 to 3 Gm. of fatty material per day in the feces. At least 50 per cent and perhaps more of this is derived from nondietary sources such as epithelial débris, residual material from secretions, and bacterial synthesis. Consequently, it appears that under normal conditions at least 90 per cent or more of ingested fat is absorbed. It is generally agreed that defective fat absorption is present if less than 90 per cent of ingested fat is absorbed, and it is of considerable severity if 85 per cent or less is absorbed. In clinical steatorrhea there may be a marked variation in the amount of fat absorbed from day to day, and the defect may be accentuated by increments of dietary fat. As a general rule, if more than 25 to 30 per cent of the dried weight of stool is fat, steatorrhea is present.

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* Presented as part of a Symposium on Clinical Medicine in Washington, D. C., May 7, 1959, under the sponsorship of the District of Columbia Chapter of the American Academy of General Practice, the Maryland Academy of General Practice, and the Washington Branch of the American Medical Women's Association.

Granted that steatorrhea is a cardinal manifestation of the malabsorption syndromes, in actual practice it is difficult and often impossible to subject the patient with suspected steatorrhea to elaborate and expensive fat-balance studies. It is for this reason that we have emphasized the application of certain simple screening tests in the diagnosis of malabsorptive disorders. The diagnosis of steatorrhea in the patients to be discussed in this report was based in part upon the repeated finding on microscopic examination of the stool of large amounts of fat or fatty acids by means of the method of Andersen.[1] This method has been a useful screening procedure in our experience provided a specially trained and proficient technician has performed the tests. In some of the patients corroboration of the diagnosis was obtained by 3-day stool collections which were analyzed for fat. In addition, in all of the patients serum carotene and vitamin A levels were measured. In our experience, a very low or zero serum carotene level has usually reflected significant steatorrhea. We have used these examinations as initial screening procedures in the study of patients suspected of having steatorrhea. Positive tests have been followed by more elaborate confirmatory procedures aimed especially at determining the cause of the increased loss of fat in the stools. These have included oral glucose tolerance tests, vitamin A absorption curves, small intestine X-ray study, prothrombin time, and serum electrolyte studies. Drs. Keith Reemstma and James Malm[2, 3] have studied the absorption of I^{131}-tagged olive oil and oleic acid in some of these patients. In pancreatogenous steatorrhea the olive oil is poorly absorbed, whereas the oleic acid is well absorbed, a finding to be expected if the steatorrhea is due to the lack of pancreatic enzymes and consequent inability to emulsify and to split neutral fat. In the malabsorptive disorder of primary sprue both substances are poorly absorbed. In cystic fibrosis of the pancreas both materials are poorly absorbed, arguing for defective absorption by the small bowel as well as the known pancreatic exocrine deficiency of this disease. The tagged fat tests are not substitutes for fat-balance studies, but they are simpler and are of value in differentiating between pancreatogenous and malabsorptive steatorrhea. This differentiation cannot be achieved by fat-balance technics, which merely measure the total intake and output of fatty materials.

As information has been acquired from the study of our cases, it has become evident that a multitude of factors may be involved in the causation of steatorrhea or malabsorption. Analysis of these factors has led to the evolution of the following clinical classification, which is empirical and avoids consideration of the highly controversial biochemical mechanisms involved in malabsorptive disorders (table 1).

TABLE 1

Causes of Malabsorption

I. Anatomic or structural
    Total pancreatectomy
    Gastrectomy, total or subtotal
    Resection of small intestine
    Short-circuiting operations
    Intestinal fistulae
    Congenital anomalies, malrotation of intestine

- II. Physiologic or metabolic
    - Neurogenic (parasympathotonia with rapid intestinal transit)
    - Allergic
    - Endocrinologic
        - Hyperthyroidism
        - Primary hypoparathyroidism
        - Hypopituitarism (?)
    - Adrenal cortical insufficiency
    - Following broad-spectrum antibiotic therapy
    - Hypoproteinemia
    - Agammaglobulinemia
- III. Pathologic
    - Pancreatogenous
    - Intestinal
    - Mesenteric
    - Hepatobiliary
- IV. "Primary" malabsorptive or nutritional disorders
    - Celiac disease
    - Tropical sprue
    - Nontropical sprue
    - Gluten sensitivity
    - Kwashiorkor
    - Vitamin B-complex deficiency disorders

The pathologic causes of malabsorption are listed in table 2. It is apparent from the list that a wide variety of diseases may cause malabsorption. Once the laboratory diagnosis of steatorrhea has been made, it remains for careful clinical and further laboratory study to determine its cause, if possible. The diagnosis may be settled easily in some cases, but in others resort will be had to gastrointestinal X-ray examination, biopsy of various tissues utilizing various histochemical technics and stains, study of the absorptive capacity of the gastrointestinal tract for various substances, study of endocrine function, or, at times, surgical exploration of the abdomen. Steatorrhea is thus an important clue to the diagnosis of a number of unusual and complex disorders. The fecal fat loss may be only one manifestation of a malabsorptive disorder, since many patients exhibit other evidence of the broad spectrum of malabsorption.

TABLE 2

Pathologic Causes of Malabsorption

- A. Pancreatogenous
    - Inflammatory
        - Chronic relapsing pancreatitis
        - Chronic calcareous pancreatitis
        - Cystic fibrosis of the pancreas
        - Pseudocysts of the pancreas
        - Hemochromatosis
    - Neoplastic
        - Benign tumors
        - Malignant tumors
    - Iatrogenic
        - After proximal partial pancreatectomy
        - Following injury to the pancreatic ducts
- B. Intestinal
    - Inflammatory
        - Regional enteritis
        - Primary amyloidosis
        - Scleroderma
        - Giardiasis
        - Tuberculosis
        - Diverticulosis of the small intestine
        - Post-irradiation injury of the small intestine
        - Multiple adhesions involving the small intestine
        - Strictures of the small intestine with the "blind loop" phenomenon
        - Viral enteritis
        - Bacterial enteritis
    - Neoplastic
        - Benign tumors
        - Malignant tumors
            - Carcinoma
            - Reticulum-cell sarcoma
            - Other lymphomata
            - Plasmacytoma
            - Metastasizing carcinoids
            - Leiomyosarcoma
- C. Mesenteric
    - Tuberculosis
    - Sclerosing mesenteritis
    - Lymphoma
    - Metastatic carcinoma
    - Whipple's intestinal lipodystrophy
    - Lipid storage disease
        - Gaucher's
        - Niemann-Pick
        - Xanthomatosis
    - Mesenteric arteriosclerosis
- D. Hepatobiliary
    - Inflammatory
        - Cirrhosis of the liver
        - Cholangiolitis
        - Hepatitis
        - Stricture of the common bile duct
    - Neoplastic
        - Carcinoma of the ampulla of Vater
        - Carcinoma of the bile ducts
    - Mechanical
        - Obstruction of the common bile duct by stones, etc.

It is beyond the scope of this report to discuss in detail all of the unusual clinical conditions responsible for defective digestion or malabsorption of fat. I propose to concentrate on some of the more unusual situations.

The steatorrhea that follows total pancreatectomy is predictable and amenable to replacement therapy with pancreatic extract. However, the group of patients undergoing total pancreatectomy is small compared to those undergoing partial pancreatectomy involving the head of the pancreas. In the latter group Dr. Milton Porter and I[4] have observed a syndrome of pancreatic insufficiency which may appear at some time distant, i.e., months or even years, from the operation. The clinical picture is characterized by the appearance of weight loss, steatorrhea, and mild diabetes in a patient who has undergone resection of the head of the pancreas, usually for malignant neoplasm or occasionally for benign disease. In the former the clinical picture may suggest terminal invasive carcinoma. However, the condition is amenable to medical therapy, including oral pancreatin, diet and adequate daily dosage (25 to 30 units) of long-acting insulin. In several cases, at exploration the anastomoses of the pancreatic ducts to the jejunum have been seen to be obliterated and the remnant of the pancreas has been atrophied or involved by diffuse pancreatitis which had destroyed the islet cells as well as the acinar tissue. The following case report will emphasize our experience with this condition, which we have designated the postpancreaticoduodenectomy syndrome.[4]

Case 1. K. A., a 35-year-old married white man, a bank clerk, was admitted to the Presbyterian Hospital on December 7, 1950, with the complaint of burning abdominal pain of 7 days' duration. He stated that he had been in perfect health until December 1, 1950, when he noted the onset of his distress which was unrelated to eating and not accompanied by nausea, vomiting, weight loss or melena. A gastrointestinal X-ray series revealed a 12 mm. ulcer crater on the lesser curvature of the stomach in the prepyloric region.

At operation on December 16, 1950, a benign ulcer was found to have eroded through all coats of the stomach and become adherent to the head of the pancreas. At one edge of the ulcer, but not in its bed, were the anaplastic cells of a superficial spreading carcinoma of the stomach. It was elected to perform a subtotal gastrectomy, duodenectomy, partial pancreatectomy, gastrojejunostomy (Hofmeister type), choledochojejunostomy, and pancreaticojejunostomy.

The patient developed a small pulmonary infarct postoperatively, but his course was otherwise smooth. Following discharge he was followed in the outpatient clinic, and except for mild "dumping" symptoms continued to do well, and his weight rose from 129 pounds on discharge to 143 pounds.

On December 9, 1952, almost 2 years after his operation, he reported that he was having occasional bouts of diarrhea and had lost 8 pounds. By May 21, 1953 he had lost another 10 pounds and reported that he had been passing bulky, fatty stools 2 to 3 times daily. A gastrointestinal X-ray series on May 28, 1953 was interpreted as revealing evidence of recurrent carcinoma in the gastric remnant. The patient was referred to me in the Gastrointestinal Clinic on June 1, 1953. At this time he weighed only 118 pounds.

There was nothing of note on physical examination. Rectal examination revealed the presence of foul, fatty feces resembling rancid butter in appearance. Microscopic fat content was 4 plus, and a large amount of unabsorbed extracellular starch was also present. The urine contained 2 plus glucose. The serum vitamin A level was normal, but the serum carotene level was zero. The oral glucose tolerance curve was of the diabetic type. Review of the films of the gastrointestinal series failed to support the original diagnosis of recurrent carcinoma.

The patient was placed on a diet of carbohydrate, 250 Gm.; protein, 125 Gm.; and fat, 100 Gm., divided into 6 feedings; and NPH insulin, 10 units daily before breakfast, increasing progressively to 25 units daily, was prescribed. He was also given pancreatic powder, U.S.P., 3 teaspoons t.i.d. with meals. The response to therapy was dramatic. The diarrhea quickly ceased, and the patient began to regain his weight. He has been perfectly well on this program, and when last seen in February, 1959, well over 8 years after his operation for gastric carcinoma, he had no complaints and weighed 141½ pounds.

Another of the unusual causes of steatorrhea in adults is cystic fibrosis of the pancreas. Largely due to the pioneering efforts of Andersen[5] this entity has achieved wide recognition among pediatricians. Through her efforts it has been possible to prolong the lives of a significant number of these children, so that a sizable group has outgrown the pediatric age limit and is now the responsibility of the internist. In addition, there is believed to be a considerable group of adults with partial forms of this disorder. Fortunately, with the advent of the sweat test of di Sant'Agnese[6] we now have a useful and apparently specific test for cystic fibrosis of the pancreas which should facilitate the recognition of the disease.

It is well known that disease of the small intestine of sufficient extent will interfere with absorption from the lumen and result in steatorrhea. Whereas in the past the emphasis has been on the extent of involvement of the bowel irrespective of the level, recent findings suggest selective absorptive differences in various segments of the small intestine. Recent evidence indicates that in animals the distal small bowel may be primarily concerned with fat absorption, whereas the proximal small bowel is concerned with the absorption of glucose.[7, 8, 9] It has also been shown that in man glucose is absorbed more rapidly from the upper small bowel than from the lower ileum.[10] It is not certain that these segmental differences apply to fat absorption in humans, but it would appear likely. Thus, there appear to be segmental differences in the absorption of various foodstuffs, and these should condition our evaluation of the defects seen in some patients with small intestinal disorders. It is not merely a matter of how many centimeters of small bowel have been resected or are diseased. Whether it is proximal or distal small bowel seems equally important. Further study of this phenomenon in the human subject utilizing tagged isotopes should provide data of considerable interest.

The most common inflammatory disease of the small intestine causing steatorrhea is extensive ileitis or ileojejunitis. In the past this has been considered an irreversible process with a uniformly poor prognosis. The reversal of this disease following long-term cortisone therapy in one of our patients is worthy of further comment.

Case 2. J. W., a 28-year-old white housewife, was admitted to the Presbyterian Hospital on October 31, 1951 with the complaint of diarrhea, weight loss, and numbness, tingling and "spasms" of the hands and feet. Her illness had begun in January, 1951 following the uneventful delivery of her second child and was initiated by severe diarrhea, fever and weight loss of 25 pounds in 2 months. She had spent 6 months in other hospitals and failed to improve. Ten weeks before admission she developed frank tetany which required frequent injections of calcium gluconate. On transfer to this Hospital she appeared quite emaciated, carpopedal spasm was evident, and Chvostek and Trousseau signs were readily demonstrable. Many laboratory studies were performed, the chief findings of interest being elevation of the erythrocyte sedimentation rate to 100 mm. in 1 hour, steatorrhea, zero carotene level, hypocalcemia, elevated serum amylase (87 Myers and Killian units), markedly and diffusely abnormal small bowel X-ray pattern, prolonged prothrombin time, positive cephalin flocculation test, and normal oral glucose tolerance test.

Treatment for the malabsorption syndrome was instituted, consisting of the use of oral and parenteral vitamins, a special diet, and calcium lactate by mouth. She improved slightly and was discharged on December 5, 1951, only to be readmitted on December 21, 1951 because of persisting symptoms. While in the hospital she improved slowly on the same program, and there was some discussion as to whether she should undergo an abdominal exploration to settle the diagnosis. She was reluctant to have this, and since she was improving it was not urged upon her. She was discharged on January 11, 1952 and seemed to improve for a time. However, in April, 1952 she suffered a severe relapse and was readmitted on April 21, 1952. On May 3, 1952, because of her failure to improve and in order to clarify the diagnosis, she underwent exploratory laparotomy. This revealed the upper small bowel to be grossly abnormal, exhibiting a thickened, boggy wall with a cobblestone appearance. The greatest involvement appeared to be in the proximal small bowel with gradual transition toward normal as the ileocecal valve was approached. The small bowel mesentery was studded with large succulent nodes, 2 of which were excised and submitted to histochemical study including staining with periodic acid Schiff reagent. These studies failed to reveal any evidence of Whipple's disease or lymphoma, the appearance of the node being that of nonspecific lymphadenitis. The opinion of the surgeon was that the small bowel was involved by an inflammatory process, i.e., ileojejunitis, and he was fearful that a biopsy of the bowel might result in fistula formation. For this reason tissue documentation of the diagnosis was not obtained. On May 15, 1952 the patient was started on intramuscular ACTH, 100 mg. daily, in divided doses, and remained upon this for 3 weeks, at which time she was placed on oral cortisone, 25 mg. t.i.d. Her improvement was dramatic, and within a month she had gained 25 pounds and was free of diarrhea and tetany and was afebrile. She was discharged on June 24, 1952, and continued with the same dose of oral cortisone. Improvement progressed, and by April 6, 1953 she had gained an additional 15 pounds and appeared rather plump. On this date the cortisone was reduced to 12.5 Gm. q.i.d., and she remained well.

In September, 1954 she appeared in excellent health and an inventory of her laboratory tests was initiated. This revealed that the erythrocyte sedimentation rate had fallen to 31 mm. in 1 hour and the serum amylase to 47 Myers and Killian units. The serum proteins were essentially normal, as were the serum calcium and phosphorus. Steatorrhea was still present, however, as evidenced by the increased fecal fat content and the zero serum carotene level. A most striking reversal toward normal of the X-ray of the small intestine was seen on October 8, 1954. So remarkable was this that the radiologist questioned the original diagnosis because he had never seen so dramatic a reversal. It is indeed unfortunate that a wedge biopsy of the involved bowel had not been obtained at the time of the exploratory operation. On February 21, 1955 cortisone was stopped after a course of Acthar Gel consisting of 40 units intramuscularly daily for 5 days. The patient has been followed regularly in the Gastrointestinal Clinic ever since, and when seen on February 15, 1957 she seemed in good health and had no complaints. In December, 1958, during a normal pregnancy, she suffered a severe relapse of her malabsorptive disorder and spontaneously aborted. Steroid therapy was required to induce a remission. She is at present on long-term adrenal steroid therapy and is quite well.

We have several patients who have responded in a similar manner, and further study of this phenomenon is being pursued. If the advanced form of this disease can be influenced by steroid therapy, it may be possible to modify earlier disease. With this in mind, a small number of patients with milder forms of ileitis are being treated with steroids in an attempt to avoid operation.

Skip area or segmental involvement of the small bowel by inflammatory disease may provoke steatorrhea despite the fact that the involved area of the small bowel seems rather small. It would appear that the bowel proximal to the obstruction dilates and loses its capacity to absorb fat and other nutrients in a normal manner. In one of our patients, mere resection of the obstructing area of intestine with end-to-end anastomosis resulted in a dramatic improvement in the absorption of fat and other foodstuffs by the remaining bowel.

Among the more bizarre causes of steatorrhea encountered by us has been primary amyloidosis with infiltration of the intestinal submucosa by amyloid. Scleroderma of the gastrointestinal tract has been another unusual cause of steatorrhea. We have had 1 patient with Whipple's intestinal lipodystrophy[11] who responded temporarily to adrenal steroid therapy. We have also encountered several patients with a sprue-like disorder who have had extensive hemofuscin deposits in smooth muscle. Another entity has been the malabsorption in patients with multiple diverticula of the small intestine. Antibiotic therapy in intermittent short courses has been beneficial, presumably by modifying the bacterial flora of the bowel.

Despite the utilization of all available technics for the study of malabsorptive disorders, there will always be a small group of patients with steatorrhea whose ultimate diagnosis cannot be settled on the clinical evidence alone. It is for this minority of well-studied cases that we reserve exploratory laparotomy. This should be performed by an experienced surgeon who is alert to the many possible conditions which may produce steatorrhea. He should be prepared not only to visualize and to palpate the viscera but also to obtain biopsy specimens of the small bowel, mesenteric nodes, liver, and, if necessary, the pancreas. Close coöperation with the surgical pathologist is paramount in order to derive the maximum of information from the procedure. Special fixatives may be needed for the histochemical studies designed to clarify the diagnosis. A perfunctory, routinely approached laparotomy is worse than none at all, and the same may be said of the pathologist's contribution. In a teaching institution it is important that the operation be closely supervised by an experienced senior surgeon who can ensure that the maximum of information will be obtained under conditions of complete safety to the patient.

It has been under circumstances such as these that we have recommended exploration of a small minority of our patients with unexplained steatorrhea. In this way we have been able to diagnose a number of unusual disorders including Whipple's disease, "hemofuscinosis," postirradiation injury to the small bowel, and primary ileocecal tuberculosis, as well as a wide variety of more common lesions. This effort is not merely an academic exercise to achieve accuracy of classification of these ailments. It is by this means that we have at times been able to select a rational form of therapy for the patient. This may consist of steroid therapy for Whipple's disease, antibiotic therapy for tuberculosis, or chemotherapy or radiotherapy for lymphoma. In addition, resectable lesions have been dealt with, and, on occasion, selective skip-area resection has helped a patient with ileojejunitis. These dividends amply justify abdominal exploration of the small group of patients whose malabsorptive defects have not been clarified despite careful medical study.

In recent years, Shiner[12] has developed a special tube and Crosby[13] a capsule for the endoral biopsy of jejunal mucosa. The application of this technic to the study of patients with malabsorptive disorders may obviate the need for exploratory operation in some cases. In addition, this technic of study bids fair to add considerable information to our knowledge of the histopathologic lesions of the small bowel in a variety of disease states.

Another development of considerable interest is the observation that some patients with malabsorptive disorders leak serum albumin and presumably other large molecules into the lumen of the gastrointestinal tract and may develop hypoproteinemia. Gordon[14] has studied this phenomenon, which he has called "exudative enteropathy," and has found important losses of I^{131}-tagged polyvinyl pyrrolidone into the lumen of the bowel in this condition.

In closing, one might ask why the emphasis on malabsorption and its relatively small segment of disease? I believe it is evident from my discussion that, as happens so often in medicine, the unusual or rare diseases serve to stimulate interest in the fundamental and basic processes which may be at fault. For instance, although nontropical sprue is an uncommon disease, it has served to arouse the interest of a great many workers in diverse fields and led to increasing understanding of the normal processes of digestion and absorption in the human subject. Had it not been for the challenge posed by the sick patient with sprue, it is likely that the stimulus for studying the normal dynamics of intestinal function would not have existed.

Illingworth[15] in his foreword to a recent monograph on "Modern Trends in Gastroenterology" has said:

"We are living in an interesting phase of medical reorientation. The historic distinction between physicians and surgeons, dating from the Papal Bull of A.D. 1215, is being replaced by specialization of a different sort, based on regions or groups of diseases. Of these, the most recent is gastroenterology, the study of diseases of the alimentary tract and its related glands. This . . . volume . . . illustrates well the immense value of such concentration of interest, whereby the attention of men of diverse disciplines is focused on a single field, for here are physicians and surgeons, anatomists and radiologists, physiologists, pathologists, and biochemists, all making their contributions to the common pool of knowledge."

It is in this direction that growth and development in gastroenterology are headed, and one is filled with enthusiasm at the prospect of the new things to come in this exciting field.

SUMMARY

The term "malabsorption syndromes" encompasses a wide variety of digestive disorders characterized by defective digestion, utilization or absorption of one or more ingested foodstuffs, minerals or vitamins.

The most significant of the malabsorptive defects is steatorrhea or excessive loss of fat in the stools. When it is present it is almost certain that a diffuse and real disturbance of absorption exists involving other substances as well as fats.

For the diagnosis of steatorrhea we have relied upon a careful history and physical examination and simple screening tests consisting of the microscopic examination of the stool for fat and the serum carotene level. These simple screening tests, when positive, amply justify further study of these patients, with the use of more elaborate laboratory and clinical technics to clarify the nature of the malabsorptive defect.

If the screening tests are repeatedly negative, it is unlikely that a significant malabsorptive defect is present, and unless the clinical picture is extremely suggestive it would seem unnecessary to resort to additional tedious and expensive diagnostic procedures.

Careful clinical and laboratory study will usually reveal the cause of malabsorption in most patients. However, in the small minority of unexplained cases a carefully performed exploratory laparotomy may clarify the problem and aid in the selection of specific therapy.

BIBLIOGRAPHY

1. ANDERSEN, D. H.: Am. J. Dis. Child., 1945, **69**, 141.
2. MALM, J. R., REEMTSMA, K., AND BARKER, H. G.: Proc. Soc. Exper. Biol. & Med., 1956, **92**, 471.
3. MALM, J. R., AND REEMTSMA, K.: To be published.
4. LEPORE, M. J.: S. Clin. North America, 1956, **36**, 507.
5. ANDERSEN, D. H.: Am. J. Dis. Child., 1938, **56**, 344.
6. DI SANT'AGNESE, P. A., DARLING, R. C., PERERA, G. A., AND SHEA, E.: Am. J. Med., 1953, **15**, 777.
7. KREMEN, A. J., LINNER, J. H., AND NELSON, C. H.: Ann. Surg., 1954, **140**, 439.
8. BENSON, J. A., JR., CHANDLER, G. N., VANSTEENHUYSE, F. E., AND GAGNON, J. O.: Gastroenterology, 1956, **30**, 53.
9. JENSENIUS, H.: Results of Experimental Resections of the Small Intestine of Dogs. Copenhagen: Arnold Busck, 1945.
10. CUMMINS, A. J., AND JUSSILA, R.: Gastroenterology, 1955, **29**, 982.
11. LEPORE, M. J.: Am. J. Med., 1954, **17**, 160.
12. SHINER, M.: Lancet, 1956, **1**, 85.
13. CROSBY, W. H., AND KUGLER, H. W.: Am. J. Digest. Dis., 1957, **2**, 236.
14. GORDON, R. S., JR.: Lancet, 1959, **1**, 325.
15. ILLINGWORTH, C. F. E., in Jones, F. A., editor: Modern Trends in Gastroenterology, 2nd ed. New York: Hoeber-Harper, 1958.

COLLAGEN DISEASE: THE OVERLOOKED DIAGNOSIS*

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THE TERM "collagen disease" applies to a group of distinct illnesses of different etiology and similar clinical manifestations which affect connective tissue. The diseases usually included are serum sickness, rheumatic fever, rheumatoid arthritis, systemic lupus erythematosus, thrombotic thrombocytopenic purpura, polyarteritis, dermatomyositis, scleredema adultorum, and scleroderma. The aim of this paper is to review the features of the maladies, stressing the lesser known disorders, beginning with systemic lupus erythematosus. These are the ailments which are generally overlooked, although some of them are quite common. Emphasis will be placed on the importance of arriving at a specific diagnosis of one of these maladies because of differences in prognosis and therapy.

The introduction of the expression "diffuse collagen disease" into clinical medicine is accredited to Klemperer, Pollack and Baehr[1] who applied it to acute disseminated lupus, generalized scleroderma, and dermatomyositis in 1942. The name was employed originally by these investigators to emphasize the concept that these diseases were associated with injury to a tissue widely distributed throughout the body, i.e., connective tissue. No implications were made concerning specificity or a common etiology. Unfortunately this original concept has been sadly abused, as was expressed by Klemperer,[2] "The impatience of clinical investigators and a peculiar worship of diagnostic terms has led to an exaggerated popularity of the diagnosis collagen disease. There is danger that it may become a catch-all term for maladies with puzzling clinical and anatomical features." It must be understood that this term is never used as a diagnostic label any more than neoplasm or infection would be used as such.

The etiologies of these maladies beyond the allergic cause of serum sickness and the role of the beta hemolytic streptococcus and the family substrate in rheumatic fever remain an enigma. Recent studies suggest that both rheumatoid arthritis and systemic lupus erythematosus may be manifestations of some sort of hypersensitivity reaction.

The average annual incidence of these ailments compared to some of the more common disease entities is listed in table 1. There are several

TABLE 1

Annual Number of Individual Patients with Various Disorders Admitted to the Medical Service of the 3,500-bed Los Angeles County General Hospital (Based on a 5-year Average, 1954–1958)

Acute myocardial infarction	945
Rheumatic heart disease	551
Ulcerative colitis	33
Leukemia—all types	61
Pernicious anemia	62
Serum sickness	63
Acute rheumatic fever	58
Rheumatoid arthritis	256
Systemic lupus erythematosus	36
Thrombotic thrombocytopenic purpura	<1
Polyarteritis nodosa	4
Dermatomyositis	1
Scleredema adultorum	<1
Scleroderma	9

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points worth commenting upon. The occurrence of rheumatic fever in Southern California has always been lower than in the northeastern sections of the United States. In recent years there has been a reduction in this disease all over the country due to the widespread use of antibiotics effective against the beta hemolytic streptococcus. The incidence of systemic lupus erythematosus, which used to be considered a rare entity, is now almost equal to that of acute rheumatic fever.

Scleroderma is the next most frequently seen disorder in this group, with an average of 9 cases annually admitted. The other "collagen diseases" were observed far less often.

TABLE 2

Incidence of Connective Tissue Disorders at the Los Angeles County General Hospital—Tabulated Annually by Decades (Incidence Corrected for Number of Admissions)

	Patients per Year			
	1928	1938	1948	1958
Serum sickness	128	9	50	96
Acute rheumatic fever	*	72	82	40
Rheumatoid arthritis	174	89	198	285
Systemic lupus erythematosus	0	4	9	36
Thrombotic thrombocytopenic purpura	0	0	0	<1
Polyarteritis nodosa	0	4	4	3
Dermatomyositis	0	2	4	3
Scleredema adultorum	*	*	*	<1
Scleroderma	8	2	19	11

* No data available

Table 2 was prepared to show the changing incidence of these disorders in the period before the introduction of any antibiotics (1928), following the introduction of sulfonamides (1938), in the presteroid period with initial use of penicillin (1948), and currently with widespread use of antibiotics, corticosteroids and the L.E. cell test which has been routinely employed at this Hospital since 1950. The number of cases of serum sickness declined in 1938 and in 1948 due to less use of antiserum and more antibiotics. At present, it is rising again following sensitization to penicillin. The number of cases of acute rheumatic fever is decreasing.

Systemic lupus erythematosus is the only illness in the group whose incidence has markedly risen, from a complete absence of cases in 1928 to 36 patients in 1958. The explanation of this change is most likely not due to a true increase in frequency of the disease but to 2 other factors, the first being the effectiveness of antibiotics in curing the secondary infections which caused the death of these patients prior to the time at which the disease progressed sufficiently for diagnosis. In the 1940's the antibiotics were widely used, and the number of cases increased to 9 in 1948. The second factor was the introduction of the L.E. cell test by Hargraves in that same year which permitted definitive diagnosis in early and equivocal cases. This accounts for the great increment during the past decade.

SYSTEMIC LUPUS ERYTHEMATOSUS

Systemic lupus erythematosus is usually a chronic disorder similar in clinical picture and course to rheumatic fever and rheumatoid arthritis. Eighty-eight per cent of the patients with this illness are females, the majority being 10 to 40 years of age. The disease characteristically is subject to many remissions and exacerbations. In my review of the occurrence of spontaneous improvement prior to antimalarial or steroid therapy, 38.7 per cent of 163 patients had had at least 1 such illness-free episode before specific treatment.[3]

The problem of diagnosis in this ailment is made difficult by its protean manifestations and by the fact that there is no classic pattern of the disease. Any system many initially be affected and heal; months or years later the same or another area may be involved. Table 3 summarizes the cumulative clinical and laboratory features of the first 62 cases seen by me.[4] Subsequent experience has borne out the fact that this is a representative group. Our present series now numbers over 325 cases of the systemic form of

TABLE 3

Cumulative Incidence of Changes due to Systemic Lupus Erythematosus in 62 Cases[4]

	Per cent
Signs of Catabolism:	
1. Fever	97.0
2. Weight loss	82.0
Connective Tissue Lesions:	
1. Arthralgia and arthritis	90.0
Acute or chronic rheumatoid-like deformity	30.6
2. Pericarditis	43.5
3. Myocarditis	17.7
Systolic heart murmurs	42.0
4. Pleurisy	59.5
5. Pleural effusion	55.0
6. Ascites	24.2
Vascular Lesions:	
1. Skin	
a. Skin lesions of all types (total)	84.0
b. Butterfly area lesions (both classical and typical)	69.4
c. Photosensitivity of rash	40.3
d. Hyperpigmentation (diffuse or at site of old skin lesions)	16.1
e. Mucous membrane lesions	11.2
f. Loss of hair	51.5
2. Central nervous system	
a. Convulsions due to lupus	30.6
b. Convulsions due to therapy	4.8
c. Psychoses	29.0
d. Chronic nervous system damage	17.7
3. Fundus lesions	32.3
4. Kidney	
Urinary abnormalities	56.5
5. Gastrointestinal tract	
a. Nausea	35.5
b. Vomiting	40.3
c. Diarrhea	21.0
d. Abdominal pain	37.2
6. Adenopathy	42.0
7. Splenomegaly	8.1
8. Hepatomegaly	34.0
9. Raynaud's phenomenon	25.8
Hematologic Changes:	
1. Leukopenia (1 count below 4,500)	68.0
2. Anemia (below 11.0 Gm.)	77.5
3. Thrombocytopenia (marked)	9.7
4. L.E. cells present	70.0
5. Hyperglobulinemia	27.8
Other Changes	
1. Electrocardiographic changes (marked T-wave abnormalities)	37.0
2. Jaundice (hemolytic anemia)	11.1
3. Pleocytosis	6.4

the disease and about 100 cases of the discoid type, which is a variant of it.

In this group of 62 cases, 34 per cent initially developed arthritis, usually of the rheumatoid type; however, by the time the diagnosis was made at least 90 per cent had had similar symptoms. The arthritis may vary from mere arthralgia to joint effusions and in the later stages subcutaneous nodules and classic rheumatoid deformities. Cutaneous eruptions of various types across the cheeks and bridge of the nose were presenting symptoms in 16.1 per cent. These lesions may range from the typical scaly erythematosus butterfly area eruptions of systemic lupus erythematosus to small, discoid lupus-like plaques. Persistent malar blushes with induration and edema are also common. Cutaneous eruptions which varied in appearance from maculae to bullae appeared elsewhere on the body as initial symptoms in 11.3 per cent of the patients. Other presenting manifestations included such diverse entities as Raynaud's phenomenon, hemolytic anemia, bilateral pleurisy with and without effusion, false-positive serologic tests for syphilis, pericarditis, fever, cachexia, renal disease, and epilepsy.

The key factor suggesting systemic lupus erythematosus as the cause of the above described changes rather than a more common etiology is the occurrence of multisystem disease in these patients. A thorough history must be obtained, and when an individual, for example, has a typical rheumatoid arthritis with pleural effusion or unusual skin lesions and renal involvement, systemic lupus erythematosus must be considered. The changes in these systems may not be concurrent, but can occur years apart. The illness may affect one part of the body, such as the skin, with discoid, lupus-like lesions, and fully heal; then, years later, it may produce pleuropericarditis without a cutaneous relapse. The occurrence of this type of multisystem disease should suggest systemic lupus erythematosus. In 80 per cent of typical clinical cases, the diagnosis can be confirmed after repeated testing by finding L.E.

cells, which are probably pathognomonic of the disease.

A few such cells have been found by me and others in about 5 per cent or more of apparent rheumatoid arthritis. Prolonged observation will be necessary to determine whether these patients will not terminate as have other similar cases in overt systemic lupus erythematosus confirmed at autopsy. The description of L.E. cells in other diseases such as drug reactions has not been confirmed by me and many other investigators. If cutaneous lesions are present, skin biopsy is of value in confirming the diagnosis in another 10 per cent. The diagnosis of the final 10 per cent often rests solely on clinical grounds. The proof that this group of diverse cases is a similar entity is that at postmortem examination almost all show the classic features of systemic lupus erythematosus. Pathologic alterations affect not only connective tissue but smaller blood vessels, producing arteritis and phlebitis throughout the body. This leads to the diverse clinical features of the disease. The histology of the joint and subcutaneous nodules changes is identical with those found in rheumatoid arthritis. Several histologic findings are pathognomonic; these are the "wire-loop" changes in the glomerular capillaries, the "onion skin" alteration of the collagen about the splenic arterioles, and the hematoxylin-staining amorphous masses of material in the heart valves, kidneys, and lymph nodes.

The treatment of this ailment has recently been reviewed by me. Steroids should be used only when less drastic modes of management such as rest, salicylates, and antimalarial therapy have failed.[5]

Chronic discoid lupus erythematosus has been regarded as primarily a skin disease with rare systemic manifestations. Dr. Stuart Martel and I[6] were impressed by the large number of "discoid" lupus patients who had numerous systemic complaints. We performed a complete history, physical examination, and routine laboratory work on a series of 41 patients with this disease. An attempt was made to examine all of the patients who attended the dermatology clinic with this diagnosis. The patients were divided into 2 groups: the localized discoid form with skin lesions above the chin, and the generalized discoid form with cutaneous involvement on the face and elsewhere. Sixteen of the 26 patients (62 per cent) of the localized discoid group had evidence at some time in the course of their illness of arthritis, fever, Raynaud's phenomenon, pleurisy, or other systemic changes by history and physical examination alone. Fourteen of the 15 patients (93 per cent) with generalized discoid disease had such changes. If, in addition, laboratory abnormalities such as leukopenia, elevated sedimentation rate, hyperglobulinemia or abnormal cephalin flocculation or thymol turbidity tests were considered, then 24 of the 26 with localized discoid disease and all 15 of the generalized group showed such changes. Therefore, there was evidence of systemic involvement in 96 per cent of these patients with the chronic discoid lupus.

Three different modes of onset of discoid lupus were found. Thirty-three patients (72 per cent) had cutaneous changes initially, followed in 45 per cent of this group by rheumatoid-like arthritis. Seven patients had rheumatoid arthritis prior to the appearance of discoid lesions. One patient had a biologic false-positive serologic test prior to her skin lesions.

There are other laboratory evidences of the fact that so-called discoid lupus is not primarily a cutaneous disease. The alpha 1, alpha 2 and gamma globulins rise serially, and the albumins fall in the transition between discoid and acute systemic lupus.[7] There is also a rising percentage of false-positive serologic tests for syphilis from one form to another.[8] One of the best studies of the degree of systemic change in discoid lupus is that by Huff, Taylor, and Keys,[9] who demonstrated plethysmographic changes in the fingers of patients with chronic discoid lupus, offering clear evidence that in this disease there is a circulatory dysfunction in areas remote from the site of visible lesions.

The classification of lupus erythematosus is an arbitrary one. There are many transitions between the types. Discoid lupus from its inception is a systemic disorder which is a variant of the more malignant, acute, disseminated form. The benign-appearing cutaneous lesions may be a herald of advanced systemic manifestations which can be present at the same time or at a later date, when the skin changes have healed. Therefore all these patients should have a thorough general medical survey. The form of therapy instituted depends entirely upon the extent of the disease.

THROMBOTIC THROMBOCYTOPENIC PURPURA

This is a relatively rare disease of almost uniform fatality which afflicts the smaller blood vessels with the formation of hyaline thrombi. Because of the diffuse vascular involvement it has been classified among the collagen diseases. The illness was first described by Moschcowitz[10] in 1925 and at times is referred to as Moschcowitz's syndrome or disease. Approximately 100 cases have been reported in the literature. One case every 2 years is usually seen at our 3,500-bed general hospital.

The etiology is unknown. The primary lesion affects the smaller blood vessels particularly at the arteriocapillary junction where there are seen subendothelial depositions of hyaline material which almost fully occlude the lumen. This material replaces the usual cellular and fibrillar structure. The endothelial covering of the lumen is carried along over the deposit of hyaline material until it breaks and affords a focus for platelet deposition and thromboses.[11, 12] It has been postulated that platelets form the source of this hyaline material. These microscopic changes are present in all organs including peripheral muscle.

Because of the widespread visceral lesions the clinical symptoms may be quite varied. The incidence is approximately equal in both sexes. Cases occur primarily in adults of all ages. Initially the symptoms may resemble some of the other connective tissue disorders, with malaise, weakness, arthralgia, generalized body aching, and headache. These prodromata soon give way to a hemorrhagic disease of explosive character within a few weeks of onset. Ecchymoses and purpura appear on the skin, and epistaxis, hematuria and melena indicate diffuse bleeding from mucous membranes. Pallor and mild acholuric jaundice may also be noted. Low grade fever is present early, but elevations to 106°F may occur terminally due to brain hemorrhage. In half the cases the liver and spleen are palpable. Neurologic features are of constant occurrence and figure prominently throughout the course of the illness. The most common of these are headache, confusion, delirium, stupor, reflex changes, hyperesthesia, convulsions, facial weakness, hemiplegia, and coma. Occasionally neuropsychiatric symptoms initiate the illness.

Although the majority of cases run a fulminating course, some may go on for several years. One patient was apparently benefited by splenectomy.[13]

Laboratory studies reveal thrombocytopenia and hemolytic anemia. The anemia is usually normochromic. There is commonly a leukocytosis of 12,000 or more with a shift to the left in the differential. The platelet count is usually 30,000 or less in the active cases. The Coombs' test is negative. Bleeding time is regularly increased and the tourniquet test positive. The bone marrow is usually hyperplastic and the megakaryocytes normal or increased in number with usually diminished or absent platelet production.

The differential diagnosis is difficult but readily made if one considers this illness whenever the triad of hemolytic anemia, thrombocytopenic purpura, and neurologic manifestations are present. These cases run a malignant febrile course in contradistinction to idiopathic thrombocytopenic purpura. The diagnosis may be confirmed by careful study of the blood vessels in marrow particles, skin biopsies, and particularly muscle biopsy. In contrast to the idiopathic form, corticosteroid or ACTH therapy produces no consistent effects. Splenectomy may be of benefit.

POLYARTERITIS (PERIARTERITIS NODOSA)

Polyarteritis (periarteritis nodosa) is an illness with varying clinical manifestations secondary to widespread inflammatory changes in the walls of small arteries, arterioles, and occasionally veins. The older term, which formerly was applied to this disease, was periarteritis nodosa, but the pathologic damage affects not only the periarterial tissue but also the layers of the arterial wall. In addition, the aneurysmal dilatations of the arteries originally described are so exceedingly rare that the newer term is being more frequently applied. To further complicate the clinical descriptions of this disease many variants have been described as separate syndromes, such as Wegener's granulomatosis, pulmonary infiltration with eosinophilia (Loeffler's syndrome), allergic vasculitis, etc. The incidence of the disease is quite low. Four cases per year are diagnosed at our hospital despite the very frequent use of muscle biopsy for confirmation.

One of the best reviews of the subject is by Rose and Spencer,[14] who gathered all the cases seen at 9 British teaching hospitals from 1946 to 1953. A total of 111 records were reviewed. The authors found that the disease tended to fall into 2 divisions, namely, those cases with lung involvement and those without it. Table 4 lists the different features of each group. The ages of onset of both types occur in the adult years. The sex ratio for the pulmonary type was equal, but for the variety without pulmonary involvement males predominated in a ratio of 1.6 to 1. These authors found that drug sensitivity rarely played a role in the etiology of the disease. Its cause remains an enigma.

All the patients with the pulmonary form had a respiratory illness at some stage of the disease, and in 13 of the 32 cases it was the main cause of death. The respiratory ailment, particularly when it was bronchial asthma, could antedate the systemic spread of the disease by many years. In addition to asthma as a precursor, the other 2 types of pulmonary ailments were chronic bronchitis and pneumonia. The pneumonic episodes did not respond to antibiotic therapy. Chest X-ray films revealed areas of consolidation at some stage in three-fourths of the pulmonary type of cases. These changes were of no uniform pattern. Some produced numerous soft miliary opacities, others were soft, localized and discrete lesions, while still others were dense, widespread and confluent ones. The borders of the lesions tended to be ill-defined and did not usually correspond to lobar boundaries. In serial films, lesions were often seen to disappear at 1 site and reappear elsewhere; the total duration of those which resolved varied from 2 to 12 weeks. Nasal or middle-ear granulomata were noted in 5 cases in this group.

TABLE 4

Contrasting Characteristics in Cases of Polyarteritis Nodosa with (Group A) and without (Group B) Lung Involvement[14]

Manifestation	Incidence	
	Group A—% (32 cases)	Group B —% (66 cases)
1. Clinical		
a. Specific respiratory illness, usually preceding systemic polyarteritis	100	0
b. Blood eosinophilia of 1,500 per cu. mm. or more	54	0
c. Nasal or middle-ear granuloma	16	0
2. Pathologic		
a. Lungs:		
Necrotizing lesions (other than typical infarcts and bronchiectasis)	83	0
Demonstrable pulmonary polyarteritis	54	0
b. Other organs:		
Numerous eosinophils in polyarteritis lesions	58	4
Giant cells in polyarteritic lesions	35	0
Granulomatous polyarteritis	55	6
Necrotizing or granulomatous lesions not demonstrably related to arteries	60	0

In general the illness which followed the spread of polyarteritis to systemic organs beyond the lung resembled that seen in the cases without pulmonary involvement. The occurrence of general systemic spread in contrast to the frequently insidious onset of respiratory symptoms tended to be abrupt and usually coincided with the height of the respiratory illness. There was then rapid deterioration of the patient's condition. Hypertension was absent throughout the disease in 77 per cent of the respiratory type in comparison to only 44 per cent of those without lung involvement. The most frequent general systemic complaints were severe bouts of abdominal pain, often with bloody diarrhea, fever, and signs of peripheral neuritis.

Polyarteritis is a diffuse vascular disease which involves all systems of the body. Hence there is no classic case description but a varied report of different clinical pictures in each case. Muscle pain is quite common. Arthralgia when it occurs usually shows no periarticular swelling, and this is helpful in differentiating this disease from the more acute arthritides. Varied types of skin lesions, such as urticaria, hemorrhages of varying size, and ulcerative necrotic changes may be noted.

The most characteristic laboratory finding is a peripheral blood eosinophilia of 1,500 or more per cu. mm. of blood in 54 per cent of the respiratory type cases. None of the group without lung involvement had such marked eosinophilia. The other common abnormality noted is the "telescoped" urine sediment. This term has been employed to emphasize that in this disease (and any other with renal infarction) there is present in one specimen all the changes noted throughout the life history of renal damage as seen, for example, in glomerulonephritis. The telescoped sediment contains red and white blood cells, red blood cell casts, oval fat bodies, fatty casts, and large quantities of albumin. Similar sediments are often found in systemic lupus erythematosus. Progressive renal failure often occurs.

The only way in which to confirm the clinical suspicion of polyarteritis is by biopsy. The most tender area of muscle should be selected and a large specimen obtained. Numerous sections should be made from the tissue. At best the diagnosis can be confirmed during life in only 50 per cent of cases. There must be advanced changes about the blood vessels to be pathognomonic. A few leukocytes adjacent to vessel walls is not diagnostic. This minor change is found in systemic lupus erythematosus, rheumatoid arthritis, and many other diseases.

Spontaneous remissions in this disease may occur as shown by postmortem evidence of healed polyarteritis being found incidentally where death was due to an unrelated cause. How frequently this occurs is not known. When the diagnosis is made, therapy with corticosteroids in large doses should be instituted with a similar plan to that proposed for the steroid treatment of severe systemic lupus erythematosus. There is clinical and pathologic evidence that this form of therapy causes complete healing of the arteritis.[15]

DERMATOMYOSITIS

Dermatomyositis, or polymyositis, as it is sometimes called, if no significant skin lesions are present, is a very rare disease of unknown cause, characterized by the insidious onset of nonsuppurative inflammation of striated muscles and death in about half the cases. Most of the reports in the literature involve 1 or at best a few patients. The largest series is that of O'Leary and Waisman,[16] who reported a total of 40 cases seen at the Mayo Clinic from 1926 to 1939.

This disease has a sex incidence of two-thirds female. It may occur at any time of life. Everett and Curtis[17] reviewed 19 cases in adolescents and children seen at the University of Michigan Hospital over a 20-year period. The initial lesion in one-third of their patients was facial erythema, frequently over the malar areas and bridge of the nose (butterfly area) and in most instances extending up over both orbital ridges to the eyebrows and temple. The color of this lesion was characteristic and was described as violaceous, magenta, or heliotrope, differing in shade from the erythema of the usual case of lupus erythematosus. In about 25 per cent there was generalized fatigue at the onset and in an occasional case specific muscle weakness. In one-third of the patients the disease was aggravated by sunlight. Occasionally Raynaud's phenomenon may precede the other manifestations of this disease for some years.

A cumulative survey of the physical findings in Everett and Curtis's well documented series showed that all cases eventually had generalized muscle weakness. Periorbital erythema and edema were present in 90 per cent. A similar number had erythema of the extensor surfaces of the extremities. Muscle pain was present in 80 per cent. Low-grade fever of under 100.5°F was seen in 75 per cent. Less frequent changes were tissue induration, contractures, and poikiloderma in about one-half of the cases. Soft tissue calcinosis was noted in more than a third of the cases. Late in the disease cardiac and gastrointestinal involvement occurred. Arthralgia or arthritis was completely absent in this series. No malignant tumors were found in the younger patients although 8 were observed by the same authors in a review of 40 older patients seen at the same hospital.

Other than for the increased urinary creatine (a nonspecific finding reflecting the catabolism of skeletal muscle which occurs in any wasting disease) the laboratory findings are not remarkable. The sedimentation rate was elevated in only one-third of the cases in the Everett and Curtis series. Eosinophilia of over 5 per cent was present in one-third of the cases. At times this may be extremely marked. The L.E. cell test is always negative.

Barium swallow X-ray study showed involvement of the muscles of deglutition with hypopharyngeal paralysis of varying degree in one-third of the group. Almost all cases with involvement of these muscles died in a relatively short period. Calcification in the soft tissues throughout the body may be seen in about 40 per cent. The only other disease in which it occurs is scleroderma. I have never observed this change in 325 cases of systemic lupus.

Muscle biopsy is the best method of confirming the diagnosis. Sections reveal infiltrations with leukocytes between the striate muscle fibers with edema and fragmentation of the fibers proceeding to atrophy, necrosis, fibrosis and often calcification. There is usually no vasculitis present, thereby differentiating the lesions from polyarteritis. Epidermal and dermal changes are seen in about one-half of the cases. Skin biopsy shows atrophy, telangiectasis, hydropic degeneration of the basal cells, hyperkeratosis, hyperpigmentation, and minimal infiltrate. The pathologic features of both the muscle and skin biopsies unfortunately are not pathognomonic.

The only medical treatment of value is the use of corticotropin and the corticosteroids. These provide a feeling of well-being and suppress inflammatory signs in about half of the patients but do not apparently alter the basic outcome of the disease. Physical therapy is of value in the younger patients to prevent severe contractures.

Eleven of Everett and Curtis's 19 patients died within 4 years of onset of the disease, usually of bronchopneumonia or cardiac failure. Of the 8 survivors only 1 has evidence of activity of his disease after 3 years. Four are completely active. The other 4, all with severe calcinosis, have varying degrees of limitation of activity due to this change associated with fibrosis and contractures. In contrast to rheumatic fever, systemic lupus, and rheumatoid arthritis, there are rarely any spontaneous remissions and subsequent exacerbations in dermatomyositis. The initial episode either goes on to fatal progression or gradually subsides over months to years.

SCLEREDEMA ADULTORUM

This is an exceedingly rare ailment, again of unknown cause, which is briefly mentioned here because of its benign character, as opposed to scleroderma. Consequently, it is important to differentiate it from the latter disease. O'Leary[18] reviewed 15 cases seen at the Mayo Clinic, two-thirds of whom were females. Although it may occur at any age, the majority of his patients were in their 20's. The illness is almost invariably preceded by an acute, infectious disease, commonly tonsillitis. In a few days to as long as 6 weeks following this infection, swelling started on the neck in most cases or on the face. Usually the involvement spreads rapidly to occupy extensive portions of the body. In contradistinction to scleroderma, which often begins in the hands, scleredema usually spares the hands and feet. The involved skin is stiff due to infiltration with edema. In most cases the face appears puffy and the deeper folds are diminished or obliterated, bestowing a masked appearance on the patients. Periorbital edema is usually absent. Raynaud's phenomenon is not associated with this disease in comparison with its great frequency in scleredema.

On palpation the skin provides a sensation of thickness of deep, resistant, lardaceous or brawny induration and cannot be picked up in large folds. Instead, it appears to be fused with, or bound inflexibly to the subcutis. No pitting is present. The borders of involvement are not distinct. The skin markings are preserved. There is no atrophy or alabaster appearance such as noted in scleroderma. Within several months to 3 years complete clearing occurs. Two of 15 patients reported on by O'Leary had recurrences.

Laboratory studies are not diagnostic. Skin biopsy is helpful in differentiating from scleroderma. The collagen bundles are swollen and separated by clear spaces where the edema fluid had been present. There is no proliferation of connective tissue as seen in scleroderma. There is usually no involvement of any system other than skin and subcutaneous tissue.

Since the disease usually spontaneously improves, it is difficult to assess the role of therapy. A few reported cases have had remissions hastened by the use of corticosteroids.

SCLERODERMA

Scleroderma is the second most common disorder in the group being discussed in this paper. On the average 9 cases of the diffuse type were seen annually at our hospital. The disease may be divided into 2 forms: The first is the localized variety referred to as circumscribed scleroderma or morphea; the second form is diffuse scleroderma or, as it has more recently been referred to in the literature, progressive systemic sclerosis, in order to emphasize its significant internal manifestations as well as the skin changes. Occasionally the localized form can become systemic in type. The etiology of both types is unknown.

Leinwand[19] reviewed 150 cases collected primarily from a peripheral vascular clinic where the disease is often seen in its early stages. Twenty-five of his cases were of the circumscribed variety. The sex incidence is two-thirds female. Three quarters of the patients noted the onset of their ailments between the ages of 20 and 50. All races are equally afflicted. The disease is subject to many spontaneous remissions and exacerbations. Patients have had the illness for as long as 30 years; on the other hand, in rare cases it can run a fulminant course over a period of a few months.

The earliest manifestations of the systemic form usually begin in the hands. Quite often Raynaud's syndrome may be present for years prior to the development of the skin changes of scleroderma. The initial cutaneous manifestations appear on the extremities and the face. The natural history of these lesions is first diffuse, painless edema with stiffness due to binding of the skin to the subcutaneous tissue in the beginning. There is increased pigmentation in the involved area, even in the Negro. As the process goes on, it may either heal completely without scarring in a period of weeks or months or progresses to atrophy with both central depigmentation and peripheral hyperpigmentation. At this stage the skin is described as waxy with an alabaster appearance. Later trophic ulcerations appear, primarily on the finger tips, dorsum of the interphalangeal joints, and the toes. These become secondarily infected and often require amputation. If there is much cutaneous involvement about the face, there may be restriction of ability to fully open the mouth.

Arthralgia may be present due to subcutaneous involvement. Gross joint swelling and inflammation do not occur, however, and this is helpful in differentiating it from rheumatoid arthritis, systemic lupus erythematosus, and rheumatic fever. As the illness continues there is limitation of motion of the extremities, and contraction deformities may take place. When systemic involvement appears, the most common manifestation is difficulty in swallowing due to alterations in the esophageal muscles with loss of peristalsis and achalasia. Vague gastrointestinal complaints are also common due to infiltration of the process throughout the bowel. Terminally there are cough and dyspnea due to pulmonary and cardiac changes.

Physical examination reveals few abnormalities initially other than the skin changes described above. As the ailment progresses, contractures are noted as well as trophic changes. Terminally there is profound cachexia, and despite the marked weight loss the skin remains taut and cannot be picked up over the hidebound subcutaneous tissue.

If there is extensive hand involvement in this disease it is referred to as sclerodactyly or acrosclerosis. All the fingers may be shortened, rounded, and the nails decreased in size and curved over the finger tips. In these cases X-ray films reveal the disappearance of the terminal tufts of the distal phalanges.

Auscultation of the lungs may reveal roughening of the breath sounds, indicative of pulmonary fibrosis. The heart is often enlarged terminally due to congestive heart failure secondary to myocardial fibrosis as well as hypertension from renal artery sclerosis. Arrhythmias are frequent. Systolic murmurs are at times audible.

Laboratory studies are usually normal. Urinary creatine may be elevated due to muscle wasting. Of 52 cases which had electroencephalograms in Leinwand's series, 28 showed varying types of abnormalities. Of 51 patients who had electrocardiograms, 25 showed minor deviations from the normal.

Skin biopsies are often helpful in making the diagnosis. These should be taken from an area of maximal involvement, but not from fingers or toes, since trophic ulceration may occur in these areas with limited blood supply. Skin sections show marked changes. The epidermis is atrophied, and there may be increased pigmentation in the basal layer. The collagen fibers are greatly thickened and increased in amount. The dermal appendages are usually absent. Small vessels frequently show a slight inflammatory exudate around them, often with marked thickening of the walls. Tissue changes are also prominent throughout the body.

Of 53 patients who had chest roentgenograms, 31 had evidence of pulmonary fibrosis, which was confirmed at autopsy in 11 of the cases. Calcification of the soft tissue in the chest wall or calcinosis also may be noted. This change can be found in soft tissues throughout the body. Sections of the lung reveal diffuse interstitial fibrosis and often bronchiectasis and terminal pneumonia. The postmortem examination of the heart will often show more changes than clinically suspected even with a normal electrocardiogram. The 2 main lesions are focal necrosis of myocardial muscle in the midst of normal fibers and infiltration of the muscle with vascular connective tissue replacing large areas of normal contractile tissue.

Renal involvement is of frequent occurrence. During the early phase no urinary abnormalities are noted and the blood pressure is often normal. About half the patients with scleroderma with or without steroid therapy will have terminally an abrupt appearance of increasing hypertension, progressing to the typical picture of malignant hypertension, congestive heart failure, and uremia. The urine then becomes abnormal, with albuminuria and various types of cellular elements and casts. The kidneys at autopsy have a coarsely granular surface and tend to be normal in size. Microscopic studies show widespread vascular lesions consisting of intimal thickening of the small interlobular arteries and arterioles, fibrinoid necrosis involving the walls of afferent arterioles and glomerular loops, and focal cortical infarctions. Similar arteriolar thrombo-necroses were present in the pancreas and adrenals.

The characteristic gastrointestinal change which has been reported to be present in as many as 80 per cent of cases is the esophageal alteration which is demonstrated by barium swallow in the horizontal position. There is found a lack of peristalsis and dilatation, and the barium may remain in the enlarged esophagus for hours. In occasional cases constriction of the lower third of the esophagus is present secondary to fibrosis. At autopsy, pathologic changes may be seen at times from esophagus to sigmoid. There is atrophy of the mucosa, submucosa, and muscularis with fibrous replacement. Although the connective tissue proliferation is usually emphasized in scleroderma there often occurs diffuse arterial involvement similar to that discussed in the kidney.

Because of the tendency of this illness to have spontaneous remissions, many forms of therapy have been reported to be of benefit.[20] There are only 2 that have significant temporary value. The best documented is the use of corticosteroids which are of help only in the early edematous phases of the disease but not in the advanced atrophic fibrotic phases. Parenteral use of relaxin, a hormone obtained from pregnant animals which relaxes connective tissue, was studied in 23 cases.[21] While taking this expensive medication there was temporary improvement in skin tightness, Raynaud's phenomenon and trophic ulceration, all of which relapsed after discontinuation of treatment. From my experience it is advisable to use conservative treatment with physical therapy and salicylates for pain. If a great deal of acute, localized edema is present, short courses of small amounts of steroids can be utilized. Long-term corticosteroid maintenance does not prevent fibrosis or progression of the illness and at times seems to precipitate the terminal picture of malignant hypertension and uremia.

Differential Diagnosis

The differential diagnosis of this group of diseases is best presented in tabular form as shown in table 5.

The most important single laboratory test in this field is the L.E. cell preparation which should be obtained in all cases unless the patient has classic serum sickness, scleredema or scleroderma. The overlap in clinical features of the connective tissue disorders is so great that early in the course of the illness it is exceedingly difficult to differentiate them without the various laboratory studies already mentioned. The L.E. cell test is of much more help than the various tests for rheumatoid arthritis, which are usually negative in the initial stages of the disease and positive in about 30 per cent or more of patients with systemic lupus erythematosus. L.E. cells are present in 80 per cent of typical cases of that disorder provided a number of examinations are performed at intervals of at least 4 weeks by sensitive technics.[22] Positive tests have been found by me in 10 per cent of a group of 150 classic cases of "rheumatoid arthritis." Closer study of this group of 10 per cent revealed that half of them had overt multisystem disease characteristic of systemic lupus erythematosus, often with typical skin lesions of the "discoid" variety. The other 5 per cent have no evidence at this time of any illness other than rheumatoid arthritis. I have seen many patients who for years suffered from apparent rheumatoid-like arthritis and eventually died with fulminant systemic lupus erythematosus. These 5 per cent of rheumatoid-like arthritis patients with L.E. cells may well represent cases which will fall into this group.

TABLE 5

Differential Diagnosis of Connective Tissue Disorders

	Serum Sickness	Rheumatic Fever	Rheumatoid Arthritis	Systemic Lupus	Thrombotic Thrombocytopenia	Periarteritis Nodosa	Dermatomyositis	Scleredema Adultorum	Scleroderma
Sex incidence	Equal	Equal	75% female	90% female	Equal	40% female	Equal	66% female	66% female
Age of majority	All ages	2–19 years	20–40 years	10–50	All ages	All ages	10–50	All ages	20–50
Family history	0	Often +	Often +	0	0	0	0	0	0
Past history of strep. throat	0	+	0	0	0	0	0	Often	0
Duration of disease	Weeks	Mos.–Yrs.	Mos.–Yrs.	½–4 yrs. (untreated)	1–3 mos.	Variable	4 mos.–6 yrs.	Months	Mos.–15 yrs.
First changes	Urticaria	Arthritis	Arthritis	Arthritis	Purpura and hemolytic anemia	Asthma, polyneuritis, abdominal pain	Myalgia—skin changes	Skin	Skin
Cardiac involvement (clinical)	0	Most cases in acute phase	65% at autopsy	25%	0	0	Most	0	+
Skin and mucous membrane	Hives, angioneurotic edema	Erythema multiforme, subcutaneous nodules	Subcutaneous nodules	Alopecia, butterfly erythema, scaling erythematous papules, mucous membrane ulceration	Purpura	Hives, necrotic ulcerations	Periorbital edema, dusky erythema, many atypical lesions, hyperpigmentation often	Edema of neck with stiffness	Tightness of skin of hands, face, neck. Hyperpigmentation of involved skin
Ocular	0	0	Iritis	Iris and retinal hemorrhages and exudates of all types	Retinal hemorrhages	Rarely retinal hemorrhages and exudates	0	0	0
Adenopathy	Minimal	Minimal	Minimal	Moderate	0	Minimal	0	0	0
Pleurisy with or without effusion	0	0	0	Most cases	0	0	0	0	0
Pericarditis	0	Often	0	40%	0	0	0	0	0
Generalized abdominal pain and tenderness	0	Occasional	0	Often	0	Often	0	0	0
Hepatomegaly	0	+ with failure	0	Often without failure	Often	0	0	0	0
Splenomegaly	0	Very rare without subacute bacterial endocarditis	Rare	10%	Often	0	Occasionally	0	0
Joints involved	All joints	Major joints	Minor	All joints especially minor	0	Major	0	0	Minor

Arthritic deformity	0	0	Often	Frequent	0	0	0	0	Often
Myalgia	Rare	Frequent	Frequent	Common	Frequent	Common	Marked	0	0
Raynaud's phenomenon	0	0	Occasionally	30%	0	0	Common	0	Common
Central nervous system involvement	0	Chorea	0	Convulsions and localized damage	Spotty damage in all cases	0	0	0	0
Laboratory:									
Urine abnormalities	0	0	0	60% at same time	Hematuria	Hematuria and red cell casts	Creatinuria	Creatinuria	Creatinuria
White count and differential	Leukocytosis eosinophilia	Leukocytosis	Leukocytosis in acute phase	Leukopenia in 50%	Leukemoid frequently and thrombocytopenia	Leukocytosis	Normal, eosinophilia occasionally	Normal	Normal
Anemia	0	Normocytic	Normocytic	Hemolytic—75% below 11.0 Gm.	Severe hemolytic	0	0	0	0
Uremia	0	0	0	Common	0	Common	0	0	Occasionally
Hyperglobulinemia	0	0	Occasionally	Common	0	0	0	0	0
L. E. cells	0	0	+5% only*	+ in 80%	0	0	0	0	0
Muscle biopsy	0	0	Usually 0	Usually 0	Diagnostic if positive	Suggestive if positive	Usually positive (changes nonspecific)†	0	0
Skin biopsy	Suggestive	0	0	Suggestive‡	0	0	Suggestive	Suggestive	Diagnostic
Remarks		The appearance of diastolic heart murmurs is almost pathognomonic.		No classic course. The pattern of symptom and findings suggest the diagnosis.	Fever, purpura hemolytic anemia, and CNS damage suggest diagnosis.	Association of asthma, eosinophilia, hypertension and polyneuritis suggests the diagnosis. Biopsy positive in only 50%	20% of cases associated with malignancy. Muscles mostly involved.	Benign condition; clears in mos.	Progressive over years. Terminal heart failure common.

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* Although these cases with positive L.E. cells appear to be typical rheumatoid arthritis at present, there is some evidence that they represent early systemic lupus erythematosus.

† Similar biopsy changes may occur in most of the collagen diseases and many other conditions.

‡ Biopsy more valuable in discoid and chronic phase.

Muscle biopsy is usually disappointing. In a careful review of the results of 552 specimens taken at Presbyterian Hospital in New York, Wallace et al[23] concluded that biopsy was of value in diagnosis only in some patients with polyarteritis, sarcoidosis, and trichinosis. Thirty-seven per cent of polyarteritis cases had characteristic evidence of acute arteritis with necrosis of the vessel wall and inflammatory-cell infiltration with or without granulomas. Sarcoid granulomas were found in 50 per cent of patients with sarcoidosis. Trichinae were seen in only 3 of 15 cases of trichinosis. In the other connective tissue disorders discussed above as well as in a wide variety of unrelated conditions muscle fiber degeneration associated with inflammatory changes was often encountered. Although such lesions occurred with greater frequency and perhaps with greater severity in the muscle of patients with dermatomyositis, they were found in such a wide variety of disorders that they could not be considered to have diagnostic specificity.

Antistreptolysin titer is often helpful in indicating the presence of a poststreptococcal state, but it is not diagnostic. In fact, some 15 per cent of patients with known active rheumatic fever have a negative test. High positive titers may be found in any of the illnesses discussed in this paper if they have had a recent infection which at times may have been subclinical. Transaminase levels are often high in all these connective tissue disorders because of diffuse muscle damage.

The question is often asked, "Why is it necessary to differentiate among these disorders?" It is essential to attempt to arrive at a specific diagnosis in order to properly evaluate the patient, to understand the course and prognosis of the illness, and to treat effectively. For example, a patient may be thought to have rheumatoid arthritis and be given gold therapy. Should he develop urinary abnormalities or hematologic ones the first assumption would be a reaction to treatment. If L.E. cells had been initially looked for and found in such a patient, gold therapy would not have been employed because of its high reaction rate in this disease, and the changes noted would obviously have been due to progression of the underlying disease.

Summary

The term "collagen disease" has been applied to a group of illnesses affecting connective tissue, namely, serum sickness, rheumatic fever, rheumatoid arthritis, systemic lupus erythematosus, thrombotic thrombocytopenic purpura, polyarteritis, dermatomyositis, scleredema adultorum, and scleroderma. Each of these entities is a discrete disorder with different clinical characteristics requiring differing types of therapy. An attempt is made in this paper to summarize briefly the clinical features of these diseases with emphasis on their differential diagnosis, prognosis, and treatment.

BIBLIOGRAPHY

1. Klemperer, P., Pollack, A. D., and Baehr, G.: J. A. M. A., 1942, **119,** 331.
2. Klemperer, P.: Am. J. Path., 1950, **26,** 505.
3. Dubois, E. L.: Ann. Int. Med., 1956, **45,** 163.
4. Dubois, E. L.: Ibid., 1953, **38,** 1265.
5. Dubois, E. L.: J. A. M. A., 1958, **167,** 1590.
6. Dubois, E. L., and Martel, S.: Ann. Int. Med., 1956, **44,** 482.
7. Walker, S. A., and Benditt, E. P.: J. Invest. Dermat., 1950, **14,** 113.
8. Rein, C. R., and Kostant, G. H.: Arch. Dermat. & Syph., 1950, **61,** 898.
9. Huff, S. E., Taylor, H. L., and Keys, A.: J. Invest. Dermat., 1950, **14,** 21.
10. Moschcowitz, E.: Arch. Int. Med., 1925, **36,** 89.
11. Orbison, J. L.: Am. J. Path., 1952, **28,** 129.
12. March, H. W.: Circulation, 1954, **10,** 43.
13. Meacham, G. C., and others: Blood, 1951, **6,** 706.
14. Rose, G. A., and Spencer, H.: Quart. J. Med., 1957, **26,** 43.
15. Baggenstoss, A. H., Shick, R. M., and Polley, H. F.: Am. J. Path., 1951, **27,** 537.
16. O'Leary, P. A., and Waisman, M.: Arch. Dermat. & Syph., 1940, **41,** 1001.
17. Everett, M. A., and Curtis, A. C.: A. M. A. Arch. Int. Med., 1957, **100,** 70.
18. O'Leary, P. A., Waisman, M., and Harrison, M. W.: Am. J. M. Sc., 1940, **199,** 458.

(Continued on page 734)

BROAD-SPECTRUM ANTIBIOTICS AFTER TEN YEARS*†‡

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CHLORTETRACYCLINE was first introduced to the market in 1949 and chloramphenicol in 1950, followed by oxytetracycline in 1950 and tetracycline in 1953. The production of the broad-spectrum antibiotics has increased progressively each year since 1949 except in 1953 and 1954 when the profession almost ceased to use chloramphenicol following the announcement of blood dyscrasia associated with its administration. In recent years chloramphenicol is being used in larger quantities again and tetracycline has almost entirely displaced chlortetracycline and oxytetracycline. Among the many other antibiotics that have been introduced since 1949 none have been truly broad-spectrum antibiotics.

The broad-spectrum antibiotics can be used in 3 groups of diseases:

Group I. These include infections in which other antibiotics are equally effective, such as pneumococcal pneumonia, group A streptococcal, gonococcal, meningococcal and Shigella infections. Penicillin is preferred in the therapy of the first 4 unless the patient is hypersensitive to penicillin. In bacillary dysentery streptomycin, tetracycline or chloramphenicol may be used.

Group II. These include infections caused by microörganisms, some strains of which are sensitive and some resistant to the broad-spectrum antibiotics, such as staphylococci and the gram-negative rods. Most strains recovered from patients who have not been in contact with hospitals and have not received broad-spectrum antibiotics will be sensitive to these antibiotics, and for such patients the broad spectrum antibiotics may be the drugs of first choice. The decision as to whether strains from other patients should be treated will usually depend upon in vitro studies of the microörganism.

Group III. These include infections in which the effect of the broad-spectrum antibiotics is definitely superior to the effect of any other antibiotic. In this group are the rickettsial diseases, typhoid and other salmonella fevers, brucellosis, pertussis, *H. influenzae* meningitis, infections caused by Bacteroides and by certain viruses such as the viruses of psittacosis and lymphogranuloma and perhaps the virus that causes primary atypical pneumonia.

Chloramphenicol is superior to the tetracyclines in the salmonella infections and is, therefore, the drug of choice. In all of the other infections in this group chloramphenicol should be reserved for cases in which the tetracyclines cannot be used, because a small but definite percentage of the patients who receive this drug will develop a blood dyscrasia. This percentage can be reduced by using the drug for as short a time as is compatible with good therapy, but some blood dyscrasias will still occur in spite of the best precautions.

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What results can we expect when we use the broad-spectrum antibiotics for these infections? When these antibiotics are properly used, deaths rarely occur in the rickettsial diseases, *H. influenzae* meningitis and psittacosis, and the deaths that still occur in typhoid fever come from perforation or hemorrhage. In brucellosis and pertussis the course of the disease has been shortened and the amount of disability lessened.

In view of the progress made in the field of the broad-spectrum antibiotics in the past 10 years, what is the promise for the future? Investigations at present are proceeding along 2 lines: (1) attempts to improve the absorption of the tetracyclines or to diminish side-effects and (2) long-term prophylactic administration of the tetracyclines. Several adjuvants have been introduced with the purpose of increasing the absorption of tetracycline—phosphates, glucosamine and citric acid. In spite of advertising claims to the contrary, there is no significant difference in the concentrations of tetracycline in the blood regardless of which of these adjuvants is administered in combination with the antibiotic. In fact, the only finding of importance that has emerged from these studies on absorption is that calcium will bind tetracycline in the gut and prevent its absorption, and that any of these adjuvants will combine with the calcium and thus allow the tetracycline to be absorbed without hindrance. Since all of the tetracyclines marketed today contain one or another of these calcium-binding adjuvants, the clinician does not have to concern himself about this effect.

We have been studying a modified chlortetracycline produced by the Lederle Laboratories which is excreted more slowly by the kidney than the other tetracycline compounds. This substance, demethylchlortetracycline, when administered in one-fourth to one-third of the dose used for the tetracycline compounds that are now in use produces concentrations in the blood that are equal in therapeutic activity to full doses of the presently used compounds. Likewise, my associates and I are finding that this lower dose appears to be as satisfactory as full doses of tetracycline in patients with a variety of infections. If clinical observations continue to bear this out, demethylchlortetracycline may displace the other tetracyclines for oral administration.

Prophylactic administration of the antibiotics has in the past been almost entirely directed against infections caused by a single, highly sensitive microörganism, such as the Group A streptococcus, the meningococcus or the gonococcus. For the past 3 years my associates and I have used tetracycline in patients with bronchiectasis or chronic bronchitis in an attempt to prevent acute infections and acute exacerbations of chronic infections. The dose of tetracycline was 0.5 Gm. 4 times a day. Neither the patients, the physicians, nor the technicians making the laboratory observations knew whether a patient was receiving tetracycline or a placebo. The results were uniformly in favor of tetracycline, as shown in table 1.

TABLE 1

Acute Infections of the Lower Respiratory Tract in Patients Receiving Continuous Tetracycline Prophylaxis

	Patients treated with:	
	Placebo (20 patients)	Tetracycline (20 patients)
No. of episodes*		
All patients	4.7	2.7
Patients with fever	1.9	0.3
No. of days of illness*		
All patients	43.0	24.6
Patients with fever	8.0	1.2

* Per patient per year

Among the 20 patients who received placebo therapy for 3 to 36 months, episodes of acute infections in the respiratory tract below the pharynx occurred at the rate of 4.7 per patient per year, as compared with 2.7 per patient per year among the 20 patients who received tetracycline. When only the febrile episodes were considered, the difference was more striking—1.9 febrile episodes per patient per year in patients receiving placebos as compared with 0.3 episodes in tetracycline-treated patients.

The number of days of illness attributed to lower respiratory tract infections was 43 for placebo-treated, and 24.6 for tetracycline-treated patients. Febrile illnesses of the lower respiratory tract were present for an average of 8 days per patient per year in the placebo group and 1.2 days per patient per year in the tetracycline group.

The percentage of pathogenic bacteria in the sputum of the tetracycline-treated patients decreased also. Specimens of sputum were obtained at monthly intervals before and during therapy. *Haemophilus influenzae* was present in 19 per cent of specimens before tetracycline therapy was begun and in 12 per cent during therapy. Pneumococci were cultured from 16 per cent of specimens before and from 5 per cent during therapy. The corresponding figures for coagulase-positive staphylococci were 17 per cent before and 3 per cent during therapy.

Gastrointestinal symptoms were slightly more frequent in patients receiving tetracycline than in those receiving placebos. They were never serious and merely required a temporary cessation of therapy or a reduction in dosage.

It appears, therefore, that long-term therapy with tetracycline will diminish the frequency and duration of acute respiratory episodes in patients with bronchiectasis and chronic bronchitis. In addition to making life more comfortable for these unfortunate people and enabling them to be more productive, prophylactic therapy with the tetracyclines may also prolong their lives materially, although this cannot be shown conclusively until they have been observed for a longer period of time.

In conclusion, it is obvious that in the short space of 10 years the broad-spectrum antibiotics have enabled physicians to prevent, cure and ameliorate certain diseases which would not be affected by other antibiotics. Let us hope that the past is only a prologue to an even brighter future for these antibiotics.

INFREQUENTLY RECOGNIZED DISEASES OF CHILDHOOD*

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THE ORIGINALLY assigned topic for today's discussion was "Infrequently Seen Diseases of Childhood." In attempting to prepare a talk on this topic, I consulted that remarkable compendium of pediatric information called "The Compleat Pediatrician," created by Dr. W. C. Davison, and found that he listed more than 200 different diseases in his 7 main categories which could rightly be considered as rare or "infrequently seen."

Obviously, then, the mere reciting of such a formidable list would take up most of the allotted time. One would also need to take into consideration a number of factors which influence the decision regarding the rarity of a certain condition. Among these would be the time at which the presentation is given, since many of the diseases that were common in the past are rare today and vice versa. Acute mastoiditis, diphtheria, smallpox, etc., suffice as illustrations of this category.

Next would be the factor of location. Parasitic diseases, kwashiorkor and shigellosis are all examples of conditions commonly found in some places and rarely met with in others.

Racial predominance is another factor, as exemplified by such conditions as Tay-Sachs disease, Mediterranean anemia, etc.

Age must also be considered. Here we think of the relative frequency of acute appendicitis in adolescence as compared with infancy, or, in reverse, pyloric stenosis in the first 4 to 6 weeks of life, etc.

Finally, sex itself would have to be considered, as exemplified by such sex-linked conditions as hemophilia, Hurler's syndrome, congenital dysplasia of the hip, etc.

Reviewing these facts, I requested the permission of your program chairman to change the title of my presentation by substituting the word "recognized" for the word "seen"—more correctly we might use the phrase "frequently unrecognized," with a consequent significant shift in emphasis. With his kind permission this was done and the conditions that I will seek to call to your attention, therefore, will be ones that, although not necessarily rare, are most frequently missed in recognition. To this end I consulted a number of my pediatric friends and found that a rather surprising degree of unanimity existed as to the pediatric problems most commonly missed.

All of us, I am sure, are aware of the startling fact that, although infant mortality as a whole has shown a truly remarkable decline over the past 25 or 30 years, the incidence of deaths in the first few weeks of life has remained surprisingly static despite advances in diagnostic and therapeutic technics. A large proportion of these must be attributed to unrecognized congenital anomalies for which, if detected, prompt and skilled treatment may be expected to result in a large percentage of recoveries. Here, certainly, the Oslerian dictum that "more is missed by not looking than by not knowing" is startlingly brought out.

First among these conditions we think of congenital atresia of the esophagus, in 1 of its 4 common clinical forms. Here difficulty in swallowing, choking or regurgitation at the onset of feeding, with or without cyanosis, should always raise a suspicion of this entity. In a short time the presence of copious amounts of mucus in the nares adds to our suspicion, and the inability to readily pass a soft rubber catheter into the stomach confirms it. X-ray exposures taken while the catheter is still in the blind pouch or those taken after a Lipiodol swallow will convince the most skeptical. Early operation by experienced surgeons while the infant is still well hydrated and in good electrolyte balance gives an excellent prognosis.

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Journeying down the intestinal tract we encounter pyloric stenoses, intestinal atresias and/or constricting bands, and meconium ileus—all similarly fairly readily diagnosed, and treated, if suspected in time.

Even the lowly imperforate anus would be frequently overlooked for days save for the difficulty in taking a rectal temperature. Here an "inquiring finger" followed by localizing X-ray films will put one on the right track.

Turning next to the cardiovascular system of the newborn, we find a significant percentage of congenital heart lesions unrecognized. In the absence of an audible murmur or obvious cyanosis and the presence of such vague nonspecific symptoms as "difficulty in feeding," "difficulty in breathing," "failure to gain weight," "poor muscle tone," etc., serious congenital cardiac defects may not be even suspected. Among those most commonly overlooked are patent ductus arteriosus, coarctation of the aorta, anomalies of the vascular ring, aortic stenosis, pulmonary stenosis, anomalous coronary vessels, and fibroelastosis fetalis. With the ever-increasing availability of such diagnostic aids as electrocardiograms, X-ray films, cardiac catheterization and angiocardiography (procedures which in experienced hands may be performed on even the smallest of infants with minimum risk), such conditions can in most instances be readily delineated, if first suspected. Only in this way can those infants who now die needlessly of unrecognized surgically correctible conditions be saved.

In the pulmonary field, tension cysts of the lung and spontaneous pneumothorax may similarly result in nonspecific symptoms masking their presence. We must grant that these are truly relatively rare entities, but their importance lies in their response to early definitive therapy.

Still another field in which hidden defects may be found is the genitourinary tract. Not infrequently further investigation of the infant "who is not doing well" in the form of an intravenous or, if this is not possible, subcutaneous urogram will reveal an obstructive uropathy or some other anomaly of the urinary tract.

Another leading cause of death in neonates is infection. Of paramount importance here is the realization that those twin signposts of infection that we are so prone to regard as essential to such a diagnosis, elevation of temperature and leukocytosis, are frequently lacking when infection strikes the very young. Premature infants, in fact, may perversely deceive us by subnormal temperatures in the midst of overwhelming infections. Most frequently missed in this group are the meningitides, quite commonly due to the *E. coli* organisms in this age group. Accustomed as we are to the cardinal symptoms of increased intracranial pressure in older children and adults with such diseases, we forget that the expansile skull of the young infant compensates for much of this, and only a "full" or at most slightly bulging fontanelle will warn the wary of the need for a diagnostic lumbar puncture. Even normal spinal-fluid findings very early in the disease will not rule out meningitis.

Another form of infection which often shows little in the way of visible signs until it is too late is peritonitis, which may follow an unsuspected omphalitis with little or no inflammation of the umbilical stump.

Still other conditions found in neonates which may easily be overlooked are erythoblastosis and other forms of maternal-fetal blood incompatibilities. Here, in spite of the warning given us by the not uncommon edema, anemia, and jaundice, erroneous laboratory reports that the mother is Rh positive or the Coombs' test negative may lull us into a false sense of security and a wrong diagnosis of "physiologic jaundice." A positive family history, the early appearance of the jaundice and/or anemia, and the onset of hepatosplenomegaly should call for serial blood bilirubin estimations and preparations for an exchange transfusion even in the face of such laboratory reports. We must remember that regardless of its causes a blood bilirubin concentration of more than 20 mg. per cent carries with it a heavy toll of kernicterus and cannot be safely ignored.

Now let us go on to the older infant. Here we are likely to encounter the various deficiency diseases which are unsuspected because of a presumed adequate intake of all of the essential food elements. Despite our natural tendency in this day and age to think that "it can't happen here," rachitis and scurvy still occasionally occur. Cretinism and iron deficiency anemias may be placed in the same category. In this age group various blood dyscrasias, such as congenital hemolytic anemia, spherocytosis, sickle cell anemia, and the ever-increasing acute leukemia of children, begin to put in their appearance. Only by careful physical examinations supplemented by properly interpreted peripheral blood and bone marrow studies can these be detected.

One of the most deceiving symptoms in infants, in my experience, has been abdominal pain. Rare though appendicitis is in this age group, its tendency to early rupture and peritonitis makes it of special importance to us. Inflammation, and/or hemorrhage from a Meckel's diverticulum must also be considered. Gross hemorrhage from the bowel in spite of negative X-ray and rectal examinations may properly suggest the need for an exploratory laparotomy.

Another condition all too often overlooked until it is too late is intussusception in this age group. Periods of alternating fussing and crying and unusual quiet should always suggest the insertion into the rectum of an "inquiring finger," even before the advent of the rather pathognomonic "currant jelly" stools. Here also we must remember that incarcerated or strangulated hernias may pass unnoticed if not suspected, especially if of the more rare femoral type.

As our infant gets a little older, deceiving symptoms may herald the onset of lead poisoning with its all too frequent encephalopathy. Although the characteristic lead line in the gums and such symptoms as "wrist drop" are rarely found in the young patient, a history of pica should always suggest the need for long bone X-ray studies and estimations of the lead content of the urine and the blood. In the presence of encephalitic symptoms, we must also bear in mind that those twin protean diseases which can mimic so many other clinical entities, syphilis and tuberculosis, are still far from being eliminated and may be present despite negative serologic findings or tuberculin tests.

As we move along a year or so to the preschool child, the problem of the recognition of defects of the special senses becomes an important one. All of us can recall children who were considered "retarded" or "mentally deficient" simply because they were unable either to see or hear properly. Audiometric tests are now possible from early life on, and the sooner a congenital hearing defect is discovered the better the opportunity for response to treatment and training. Similarly, severe optical defects in this age group may be missed and much valuable training time lost. In this same age group or later the severely emotionally disturbed or even the rarer truly psychotic child may similarly be falsely categorized as "retarded" and the problems thereby compounded. Even that less serious although often most confusing entity frequently referred to as "primary reading difficulty" can readily confound educators and physicians alike if it is not suspected and treated before the child has become hopelessly lost in the futile scholastic competition with his or her peers.

Most of us have come to consider the school-age child as going through the healthiest period of life, but even with this group a number of insidious diseases are prone to have their onset and equally prone to escape detection. Foremost among these is rheumatic fever with its crippling shadow of rheumatic heart disease. Although the typical picture of the acute febrile polyarthritis is now found much more often in the textbooks than in the patient, insidious rheumatic states with unheralded and unnoticed cardiac damage are still far too common. Even though the etiology is still not clearly established, we do know that proper treatment of primary streptococcal infections will markedly reduce the risk of rheumatic carditis. We might pause here to emphasize that proper treatment means adequate doses of penicillin over a 10-day period and not simply the occasional and sporadic "shots" so often counted upon to work veritable miracles. The relative values and indications for steroids and/or salicylates in rheumatic infection constitute still another story which only the future can reveal, but here, indeed, is one of the many examples of diseases in which the old adage eulogizing the worth of the ounce of prevention has been proven true over and over again.

Among the conditions met with first in a younger age group, I mentioned briefly the acute leukemia of childhood. I would like to remind you of this condition again because in the school-age child the early symptoms of this disease may closely resemble those of acute rheumatic fever, and even a first blood count (especially if not accompanied by a careful differential) may not serve to give us the true picture. Only when the inevitable anemia, adenopathy, hepatosplenomegaly and hemorrhagic tendencies follow may suspicion turn in the right direction.

Still another most deceiving entity which not too infrequently makes its initial appearance in this age group is diabetes mellitus. A positive family history (all too frequently discovered after, not before the diagnosis has been reached) and the known positive relationship between juvenile diabetes and excessively high birth weights, followed by the cardinal symptoms of excessive thirst, excessive appetite, and polyuria, should be warning enough to suggest urine and blood tests before the more demanding symptoms of impending acidotic coma supervene. The value of routine urinalysis and mass screening tests for diabetes cannot be ignored nor must they be permitted to generate a false sense of security. I recall most vividly a recent case in which the typical findings of juvenile diabetes were detected a scant 2 months after a routine urine test had been negative. Even the signs of acidosis itself may be sometimes overlooked if not particularly considered. I recall several small children whose "air hunger" was misinterpreted as a sign of pneumonia, and several others whose triad of vomiting, abdominal pain, and leukocytosis pointed strongly toward appendicitis until the urine and blood tests showed their true cause. I have repeatedly alluded to the advantage gained by early diagnosis, but in none of these diseases can its importance match that found in diabetes, especially at the time of incipient acidotic coma.

Primary tuberculosis, syphilis, deficiency states, etc. may all make their first appearances at the relatively late time of the school-age child and be thoroughly disguised for some time.

Still another "gay deceiver" of this age group is malnutrition, since it is not uncommonly masked under the guise of obesity. Here the need for the study of growth patterns as compared with single measurements of height and weight, careful review of the family constitutional build, and a complete history and physical examination may not even suffice to define the cause and type of growth error present. Teen-age eating habits, not forgetting a review of school lunches as well as mid-afternoon and evening "television" snacks, must all come in for their share of consideration in handling this truly stubborn problem.

The consideration of obesity brings to mind hypothyroidism, not because it is so closely related but because it has somehow become mistakenly thought of as an almost synonymous term. The administration of thyroid extract to the obese adolescent whose own thyroid is already functioning adequately can have only one result, namely, to increase the appetite still further and compound the problem should the symptoms of hyperthyroidism not appear first to discourage its use. In this respect it has been my experience that bone-age X-ray studies and protein-bound iodine estimations have proven far more reliable than basal metabolism tests in this age group.

This brief tour into endocrinology prompts me to divert our topic just a bit from conditions that are "frequently unrecognized" to one that is frequently falsely identified. Here I am referring to the frequency with which the moderately obese adolescent male is diagnosed as suffering from "Fröhlich's disease" or sexual infantilism in one or another form. Reports from well regarded pediatric endocrine centers remind us that this is truly one of the rarest of diseases and that the vast majority of such patients need only a little time to reach a normal degree of maturity, plus a better balance between caloric intake and exercise to overcome the excess weight problem. I have seen a number of such boys for whom various forms of endocrine therapy have been prescribed erroneously. In this field, particularly, no treatment at all is far better than inept therapy with no specifically indicated basis.

This brings to mind also the fact that in routine school physical examinations the diagnosis of "undescended testicles" is made in a disproportionately high percentage of cases. This can readily be explained as the result of the combined interaction of a cold examining hand too hastily or roughly applied in conjunction with a normally active cremasteric reflex. Certainly endocrine therapy should never be employed until the diagnosis is proven under ideal examining conditions, and even then there is grave doubt in many clinics as to whether or not surgery has supplanted even preliminary trials with glandular products of variable potency and often unpredictable side-effects.

Dealing with the female of the species, we could properly sound a similar warning against the overuse of endocrines in the control of menstrual difficulties in adolescence. If we recall that the menses during the first year and more are usually anovulatory and hence tend to be grossly irregular in frequency and amount, and also that emotional upsets, nutritional errors, etc. often exert their influence in this field, we see why here also the burden of proof must rest with us to prove the endocrinopathic origin of the condition before attempting specific therapy. So frequently have I seen harm result from the improper use of endocrine products in children and adolescents and so rarely have I seen cases in which their use was truly indicated that for myself, at least, I must conclude that here is a field in which the help of one particularly experienced in these cases should be sought.

Undoubtedly there are many other conditions of infants and children that may occur to you as "frequently unrecognized" that I have omitted. At the same time you may quite properly disagree with me as to obscurity or confusion that may be found in the conditions here discussed, but, as mentioned at the outset, they do represent the opinion of a number of pediatricians.

One might conclude from this discussion that I consider errors in diagnosis to be the rule rather than the exception in pediatrics. Nothing would be further from the truth, but when we do pause a bit and review with one another the many conditions which are highly deceptive, especially if not even suspected, I believe all of us will raise our percentage of correct diagnoses

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BREAKING AGING BARRIERS*

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AGING of the human body has been a subject of intriguing interest to philosophers and scientists since time began. How do we grow old? How old is old? When does one cease being young? These are common expressions and represent the interest of thoughtful people in quiet moments when they search for orientation and perspective. Medical science has made substantial contributions in lengthening the life span by the discovery and elaboration of procedures that have minimized the ravages of many diseases. Sanitation, prophylaxis, better understanding of nutrition, more accurate methods for the study of disease, and earlier diagnosis of conditions such as tuberculosis, the anemias and cancer have resulted in the more efficient treatment of common maladies. All this sums up to the saving of many lives. More people are living into the mature and later years of life than at any previous time in the history of mankind. Statistically, since the number of older people is increasing, new problems of social, cultural, economic, medical, and spiritual significance arise.

PREMATURE AGING

Since the advent of modern measures of disease control, such as insulin for diabetes, penicillin, and sulfa drugs, and recently antibiotics for the control of infections, more accurate and earlier diagnosis of heart disease, cancer, and the other major destroyers, more people are growing into the advanced decades in which degeneration of body tissues becomes prevalent. Already we have considerable knowledge of premature deterioration of the blood vessels. This condition is the precursor of stroke, high blood pressure, and coronary occlusion. There are remarkable, new precision chemicals arising from the realm of atomic research which promise to aid scientists in clarifying many heretofore dark areas in understanding growth processes within the body, that is, body metabolism. Furthermore, with these new chemical substances—the radioactive isotopes—important information will become available that should aid us greatly in our efforts to further stay the "Grim Reaper's" hand. The information that will be obtained concerning the wear and tear processes of the body will also be very helpful in clearing the approach to the cancer menace.

The 2 major scourges, breakdown of the blood vessels in the body and cancer, destroy over a million lives every year. Already medical science knows sufficient about these killers that, were the knowledge widely applied, the number could be reduced by probably 50 per cent. I think you will agree with me that we are indeed living in an exciting era.

BARRIERS TO HEALTHY AGING

There are two kinds of obstacles that act as barriers to healthy aging. They are biological and sociological in essence.

Apathy is the major curse of old age. Indifference accelerates deterioration. This may be due to faulty diet, sloppy posture, sluggish elimination, excessive smoking or drinking, or just plain shiftlessness. It should also be kept in mind that 1 man on his feet is worth 2 on the seat.

The weariness of old age may be the result of an anemia due to deficient nutrition. In 65 of 100 oldsters studied in the Lankenau Clinic inadequate protein and insufficient vitamins, minerals and fluids were easily identified as causes of listlessness. Poor posture with bowed shoulders permitting the heart and lungs to smother the organs in the abdomen adds to malaise. Sluggish elimination with poor bowel and kidney function, so easily corrected, is a common nuisance. But of even greater concern is the lack of an incentive, a justification for living. This is a very real problem of many sensitive and fine men and women. A high specific motivation and dedication to a job more than compensate for many of the physical limitations with advancing age. The shock of retirement, which removes an individual from active participation in the workaday world, is ofttimes the basis for a neurosis. When an individual retires out of life, life tends to retire out of him; decay is invited by cessation of purposeful living.

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Socially the general attitude that individuals having reached a certain period are passé encourages the oldster to accept the unhappy thought that "I am an old, old man."

Segregation according to chronologic age periods may remove older folks from family and community activities which are important in sustaining them as time goes on. A healthy, alert oldster should have much of value to contribute to the color and variety of family life. Indeed, the family unit needs individuals of all ages, since youth needs the oldster just as much as the elder needs the youth. Yet in our highly mechanized and urbanized world in the interest of high-speed efficiency the finer qualities of living are too often brushed aside. The most wholesome environment for any individual should be found in his own home. As family bonds are relaxed and ties are broken in the interest of high-speed efficiency, something is lost. Not only does the elderly parent suffer but the youngsters and the young adults lose a flavor of human existence for which no substitute has ever been demonstrated in the outside world. The fabulous resources of the higher years of human life when nurtured and developed in terms of enjoyment of living and contributions to community existence are just beginning to be recognized. Practical dividends will start flowing as the world of the older individual expands.

With further control of the diseases of mankind the mature years will be extended and the ultimate dissolution of bodies will be delayed. These happenings in the realm of science presage a new day for the human race, that is, if we can move along and keep ahead of the atomic bomb.

Rhythm of Growth and Aging

I like to regard natural law as a rhythmic process. Nature is characterized by proportion, balance, symmetry, harmony, and unity. There is a cycle of motion—the movement of the planets, the progression of the seasons, the ebb and flow of ocean tides. There is rhythm of the heartbeat, the intestinal canal, the breathing apparatus. There is the rhythm of conception, birth, childhood and adolescence, the full glory of adult manhood and womanhood, the attainment of maturity, and the decline in the later years. Antagonistic influences in the form of disease processes, malformation, infections, nutritional deficiencies, accidents, tumors, functional disturbances—all of these adverse circumstances interfere with the natural rhythm of human existence. Too many of our loved ones have been cut down in the full bloom of their lives. Families have been broken up because of disease. As a public benefactor the family physician is the protector of the lives of his patients. I am convinced, being somewhat of a philosopher, that folks should live at least 100 useful and happy years.

Medicated Survivors

Then another problem, perhaps the greatest problem facing society today, appears, namely, what to do with all the old folk. Surely we do not want a majority of our population to be tottery, senile, vegetating parasites. Would it not seem that experience and maturity that come as we grow older should have some social usefulness that we have not yet identified? Too often we invite premature decay by withdrawing from the active stream of social usefulness and sit on the sidelines. The zest and joy of living are likely to be lost if one withdraws from productive living. One becomes a consumer instead of a producer, and the world already has too many consumers. The yardstick of social value, so far as the individual is concerned, is just that easy to apply.

Anthropologists have described the means by which nature in various cultural groups has removed from society the aged, the unfortunate, and the ill-endowed. In early times the acute infections and the organ decompensations fairly promptly eliminated many from the passing scene. Now it is possible with the control of these diseases to prolong the vegetative existence of individuals even though the mentality is gone. Since the mind is the measure of the man and the ability of an individual to carry on depends on a sound mind in a reasonably good body, one challenge of aging today focuses directly on the basic necessity for preserving the psychic functions and social contacts of our aging fellow-men.

A fact of importance refers to the lack of increase in those of the working age in the early years of adulthood and maturity upon whose shoulders rests the responsibility to support the entire population. If medical discoveries prolong the period of incapacity and inactivity of senior citizens to the point at which they cannot be self-sustaining, an added burden on society will occur. In an urbanized way of living, institutional care where quiet and restful existence is available is the most that can be done. Overstimulation by hormones, tonics, vitamins and excessive stimulants only adds to the confusion of clouded minds.

In caring for the aged the art should supplant the science of medicine. Intensive investigations using tedious laboratory procedures should be dispensed with. The kindly and friendly ministrations of the physician should be directed to easing the anxiety and fears of the aged one.

The life span has a certain rhythm, and each period has characteristic changes. Involution leading to final dissolution of the individual is inevitable for all aged citizens. The final period should be one of calm and peaceful existence freed of the turmoil and trials of the day. The kindly friend, the personal physician, can do much for the patient and the family. There should be a sense of completeness in rounding out a well-balanced life.

BIOLOGIC HOMEOSTASIS

Important barriers to health in later years are deterioration of the vascular system, cancer, accidents, thinning of bones, and nervous and mental disorders. Researches focusing on these 4 major groups of disturbances promise better control in the future, which will result in further extension of the life span.

There is abundant evidence to suggest that the excesses and strains of the social whirl today extract resiliency from body tissues and cause the breakdown of one or more of the organs. I choose to be optimistic about the increase of the life span. Indeed, some famous physiologists, one in particular, Haller in the eighteenth century, stated that man should live not less than 200 years. And Mechnikoff was convinced that the average length of life should extend well over 100 years.

To put it another way, the human body is not fulfilling its natural destiny if it breaks down in the last quarter of its predicted life span. That is, the individual who dies at 75 is losing the last quarter of his natural expectancy based on a life span of 100 years. This statement gives us something on which to work. I predict that when medical science does have the answers to vascular degeneration and cancer there will be a substantial increase in the span of years.

Persuasive experiments have demonstrated the possibility of practically doubling the life span of lower animals. By selective diet, exercise and adequate rest to neutralize accumulative fatigue, the life span of rats, mice and hamsters has been approximately doubled. In addition, the vitality of these animals has been increased, as demonstrated by the sleekness of their coats, visual acuity, sexual potency, and general interest in living. It is possible to modify the biologic performance of animals.

Observations on the effect of diet, exercise and rest on the performance capacity of human beings indicate that the vascular wall may be protected against premature degeneration by limitation of caloric intake, the use of nonesterified fatty acids in the diet, and adequate proteins, minerals and liquids. Individuals who exercise are less prone to show deterioration of endothelial cells than those addicted to sedentary living.

In a measure the same findings obtain with reference to the aging skeleton, since, to a great extent, inactivity in the elderly invites thinning of the bones, i.e., osteoporosis. In many instances this deprivation can be delayed by adequate diet and exercise.

For cancer, while the cause is not yet known, refined methods of diagnosis and treatment, when promptly utilized, are effectively lifesaving in curbing new growths. Facing the challenge of nervous system disease, the better the vitality of the vascular system, the skeleton and muscles, the better is the housing for the central nervous system and the brain. Specific lesions require continued study.

Science is contributing much to man's physical comforts and the life extension of his physical body. New understanding of the interplay of the emotions and the endocrine glands is being added to our fund of knowledge. With more knowledge should ultimately come an enrichment of life's enduring values. Certainly mature minds should have more time to dwell on the spiritual values, which, after all, give life its ultimate meaning.

SOCIOLOGIC HOMEOSTASIS

Sociologic barriers restricting human growth in later years are widespread misconceptions regarding human potentials, compulsory retirement, isolation, and lack of participation in community functions.

Biologic homeostasis enhances the chances for a long and vigorous physical existence; sociologic homeostasis, by favoring social customs and attitudes that open up new frontiers and vistas for mature living, enriches the years that are added as the result of the onward march of medical science.

As pointed out by Walter M. Bortz II,[1] the ability to lengthen life is first not to shorten it. Treating diseases and preventing them are part of the program, but positive health practices, which include wholesome personal hygiene, attention to diet, exercise and rest, add to physical vigor.

Recently, in approving a new mortality table the National Association of Insurance Commissioners described the increase in life expectancy now in the making as "explosive." Man is evolving into a new type of being. Social customs are completely inadequate in practically all phases of daily life to meet the needs of aging citizens.

Youth must be served, so it is said, but it should certainly not be at the expense of the fabulous, untapped resources as yet quiescent in our older population.

Our leading scientists are inquiring into the motivations of human nature; one of my old teachers, Walter B. Cannon,[2] renowned physiologist, asked the question, "What can be done to improve human nature?" And he regards this as the most important of all frontiers for science to investigate. It must be accepted that the society which fosters research to save human life cannot escape the responsibility for the lives thus extended. Science and society must plan to add not only years to life, but of even greater importance, life to the years. In a philosophical mood, from time to time, I like to believe that even in the face of the atomic bomb and man's inhumanity to man, civilization is progressing—that it has removed itself at least a little distance from the savagery of the jungle. I like to muse that man has infinite capacities for self-enrichment and the translation of his abundant, developed talents into a noble service for his fellow men. I like to think that he can approach a stature and performance in fulfilling the rhythmic pattern of his life, conserving the basic harmonies to the period when, as his physical material seems to fade into insignificance, the emotional glow of his rich life should color his spiritual being. As one poet described another, "Behold him in the evening of his life. How imperceptibly he wears away, and yet like the sun, seems larger at the setting."

Blue Print for a Healthy Century of Living

There is going to be a substantial increase in the human life span in the next quarter century. If some 25 or more million people of age 65 remain inactive, this may constitute a threat to an orderly and self-sustaining social order. The financial burden of supporting them at Government expense would reach astronomical figures. If hospitalization for the elderly is included in the Social Security program, an additional 5 per cent taxation on all citizens would be necessary to raise the 2 billion dollars that would be required to establish the program. Of even greater danger is the implied suggestion that the Government can accept responsibility for the health, well-being, and social status of all older citizens.

A blue print for those destined to reach the century mark, for example, might outline a living program in 3 divisions. The first of these is the stage in which the growing child is schooled in the basic facts of life, to include instruction in the arts and sciences of living; this would take in training for establishing one's self in a useful career. This period extends through the first 30 years. The second division, from 30 to 60, represents the growth period when the family is established and broader experience is gained in useful work. The third period, opening in the early sixties, at the summit of the years, should be the final period of social usefulness. Too often forced retirement takes place which constitutes probably the greatest single obstacle to the health, happiness and welfare of many aging citizens. People are living longer and remaining young longer.

Compulsory retirement, which forces individuals out of the producing world of industry and labor at a time of probably their greatest need for meaningful work, represents one of the tragic wastes of modern society. Such terms as compulsory retirement and the hollow designation of emeritus in the educational world stigmatize a man and label him as passé when he still has many years of productive potential. Indeed, one of the most common medical diagnoses today for the elderly patients is the single term, unemployment. For the vast majority, mature people need to be needed. The necessity for continued work and participation in the busy world cannot be overemphasized. Society must develop a realistic program for the millions who are destined to live the long years beyond the present-day retirement milestone.

While medical science is making it possible to enjoy health far into the later years, a whole new educational philosophy is desperately needed. The period of the second career, far beyond the present, the middle sixties, takes on new meaning. It is obviously essential for the physical and mental health and social well-being of mature citizens that they continue to occupy a useful role in the growing changing world. There is a wealth of knowledge, know-how, and experience in the lives of our aging population. New vistas and far-flung horizons are opening up if we, as individuals, can grasp the significance of the alterations that are taking place in our daily lives. We are facing a generation of senior citizens unlike any which have ever lived before. They require a new and useful place in our future mature society.

Age barriers hurt everybody. They are wasteful economically, socially, and, most of all, in terms of human health and well-being. To exclude older people from useful employment adds up to future social chaos. It cuts down the proportion of producers and adds to the consuming mass. Reduced standards of living with restricted earning power of course makes for higher taxes. As pointed out by Rennie,[3] the balance of dependent and productive labor is disturbed when older workers are denied opportunity of employment. As society moves into the future the population in the next decade will increase approximately 20 per cent, while those in the working age group, as presently limited, will increase by only 6 per cent. Total work hours in the future will increase 40 per cent.

Our tax structure today is so calculated that each American at work supports 1½ other people besides himself. As the population will expand explosively in the next 20 years, by 1975 each American, at today's taxation rate, will have to produce enough not only to support himself but, in addition, 3½ other individuals. Peter Drucker,[4] in his stimulating book, "America's Next Twenty Years," points out that productivity will need to show a 40 per cent increase in the next 10 years and will have to be doubled in the next 20 years.

It is high time that we citizens face the facts. A new world is in the making for our older mature fellow man. The time has come when a vigorous social catharsis is needed. While the biologists are analyzing the tensile strength of various body organ systems and searching for measures to bring about better mental health, our educational philosophy and practices on the part of industry and labor must be reëvaluated. For man there are certain basic needs that vary with the passing years. More than ever, as he grows older, he needs to belong, to continue to be a part of a group in industry doing an important job, for, in this daily assignment, he finds a sense of assurance with mental and emotional satisfaction.

For all of us there is the need for doing things. The thrill of accomplishment which makes us acceptable to our fellow men sustains our self-esteem. These are basic, universal needs. They apply to all ages and all people.

Breaking the barriers that obstruct man's continued growth in the later years is a major responsibility today. This is an exciting time in which to be alive and each of us has his part to play. The task is so huge, yet the benefits to be gained are fabulous. They promise a brighter, healthier and longer life for all of us. By striving and stretching our muscles and our minds we may, each of us, participate as architects, as planners of a finer way of life whereby all of us will walk on higher ground.

BIBLIOGRAPHY

1. Bortz, E. L., and Bortz, W. M.: Major issues of aging. GP, 1959, **20** (July), 84.
2. Cannon, W. B.: Personal communication.
3. Rennie, R. A.: How age barriers to employment hurt everybody, in Proceedings of the Older Worker Conference, sponsored by Commonwealth of Pennsylvania Department of Labor and Industry, 1958, p 29.
4. Drucker, P.: Social costs of age barriers to employment. Ibid., p. 31.

President's Page

AN ACCOUNT OF STEWARDSHIP

An accounting of the stewardship of the officers and the Executive Board of the Medical Society during the current year has been set forth in some detail in the reports of the Secretary and the Chairman of that Board. Both reports were published in the October issue of the MEDICAL ANNALS. In my final contribution to this page it seems appropriate to mention my impressions of some of the Society's problems and accomplishments during the year.

The adoption of a Relative Value Scale represents the Society's first step toward a practical solution of the cost of medical care for low-income groups and our "senior citizens." While the Scale in itself does not solve the problem, it is a necessary step in the development of a workable plan.

Information obtained from previous studies of the nursing home situation revealed an urgent need for improvement. While a good beginning has been made, much remains to be done in this field. The Medical Society must not relax its efforts to raise the standards of nursing home care.

Another accomplishment was the adoption of the Workmen's Compensation Schedule, which corrects many of the inequities of the previous schedule. Although this schedule is by no means perfect, it is the best that could be obtained at this time.

A start has been made toward coördinating the many postgraduate programs arranged for practicing physicians. As a result it is hoped that there will be fewer meetings, less duplication of subject matter in lectures, and an improvement in the quality of the programs.

The Council on Rehabilitation, a committee of this Society, has completed its pioneering project carried on under a 3-year grant from the Department of Health, Education, and Welfare. Its report will be ready soon. The Society should see to it that the results of this study are put to good use. We must not allow this report to be neatly filed away to gather dust and be forgotten.

The Medical Council of the Metropolitan Washington Area is functioning well and with the passage of time should prove even more valuable to the medical profession in this locality. In many matters of professional concern, such as medical service, the care of the aged, and the standards for nursing homes, physicians in the counties adjacent to the District have problems and interests that are almost identical with the problems of their colleagues in our Society. Such a forum for discussion and for the exchange of information is proving invaluable.

As might be expected, a good deal of time and effort has been devoted to the problem of medical costs. This will probably continue as a major concern to our profession for some time. Now that many more people are buying health insurance the importance of the third party in the private practice of medicine cannot be overlooked. Medical costs paid by insurance companies will increase. It is inevitable that differences between the insurer and the physician will arise. The Society would be remiss if it failed to acknowledge this probability and if it did not make plans to deal with this new factor in private practice. Unless physicians as a group recognize and accept their responsibility in defining and regulating their relationship with the insurer and the insured, others less qualified and less interested will impose conditions which may be distasteful to the physician and harmful to the patient.

Finally, I wish to express my deep appreciation to the chairmen and the members of the committees who have devoted so much time, thought, and effort to the business delegated to them by the Society. Without the devotion to duty which these members have shown, our Society could not function efficiently.

N. LeRoy Dunn

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Editorials

1960 POSTGRADUATE EDUCATION PROGRAM

Postgraduate education is essential to the practicing physician. I am sure everyone will agree with this statement, but the problem is how to provide the need in the best possible way.

Members of the Medical Society of the District of Columbia received a questionnaire on this subject in April 1959 with a letter inviting them to express preferences on all aspects of postgraduate education. The Committee on Postgraduate Education is pleased to report that there was a good response. As a result, the Society's 1960 postgraduate program is designed to give the membership what it wants.

Wednesday evening meetings, from 8 to 10 p.m., were most favored by those returning their questionnaires. There was a marked preference for the Medical Society's auditorium as a meeting site rather than local hotels or medical schools. Over half of those who replied stated that a postgraduate course on basic

Opinions expressed in contributions to the Editorial Section are those of the writers and do not necessarily reflect the views of the Medical Society of the District of Columbia

sciences would be of interest. Once-a-week meetings over a stated period appeared more popular than meetings on consecutive evenings. Clinicopathologic conferences, recent advances in drug therapy, and the business side of medicine were the topics requested most often after the basic science review.

The following program for 1960 has been planned in close adherence to these specific requests:

January 13: Clinicopathologic Conference

MIDWINTER SEMINAR ON RECENT ADVANCES IN DRUG THERAPY—"New Pills for Old Ills"
  February 10: Steroids and Antibiotics
  February 17: Tranquilizers and Sedatives
  February 24: Cardiac Drugs and Diuretics

March 9: Clinicopathologic Conference
April 13: Medical Economics Conference
October 5, 12, 19, 26 and November 2, 9, 16, and 23: Basic Science Review

All these meetings will be held on Wednesday evenings at 8 p.m. in the Medical Society's auditorium. Dr. Thomas W. Mattingly is chairman of the subcommittee planning the Midwinter Seminar. The Basic Science Review Course is being organized under a subcommittee headed by Dr. Roy E. Ritts, Jr. The Committee on Public Information and Education, Dr. Paul R. Wilner, Chairman, is arranging the Medical Economics Conference.

In an effort to keep physicians informed in regard to all the postgraduate educational activities taking place in the various hospitals and schools in this area, a monthly calendar, compiled by Dr. Howard S. Madigan and the Medical Society's staff, is going out to all members. It is hoped that this will help avoid duplication of meetings and conflict of dates. Program chairmen are encouraged to check with the Society's Executive Offices before scheduling a meeting.

It has often been said that there are too many poor meetings and not enough good ones. Scheduling of dates and subjects for programs has sometimes been so late that advance publicity was impossible. Speakers have not been chosen for all segments of the Society. To avoid such criticism, the Postgraduate Education Committee, composed of members from each hospital and medical school in this area, has made a great effort to have each meeting of top quality. The dates have been listed above for the convenience of members, and a complete program will be sent them in advance of each meeting.

Your support and attendance at these sessions are earnestly solicited. The Committee suggests that you mark youı calendar now and plan to take part in the educational activities of your Medical Society.

Seymour Alpert, M.D.
Chairman, Committee on
Postgraduate Education

CHANGING TREND IN HOSPITAL PHILOSOPHY

The medical profession and its allied units are engaged in a closer look into the welfare of the hospitalized patient. The time has come for a review of procedures and attitudes, much of which has been accepted without question from the past and a good deal of which is now obsolete. All are agreed that extraordinary progress has been made in the development of the scientific and technical aspects of medical care. The modern hospital is well equipped as the diagnostic and therapeutic workshop of the physician. But in other major respects hospitals have not kept pace, and we, as physicians, at least in part, must shoulder the blame by failing to demand that these higher standards of hospital care be met and by failing to revise archaic customs in hospital patient care. In the minds of the public whom we serve, the inadequacies of our hospitals are closely associated with a failure on our part to correct

MEMENTO FOR ITALIAN PHYSICIANS

Dr. W. LeRoy Dunn (left), President of the Medical Society of the District of Columbia, presents a District flag to Dr. Marzio Modena, of LaSpezia, Italy, during a reception for the delegation of Italian physicians who visited the Medical Society's building, August 20. For story, see October Annals, page 605.

them, and some of the bad public relations and critical comment of our profession as a whole stem from this very source.

Recently a "Citizens Committee" composed of representatives of hospital administrators, the nursing and medical profession, and the lay public met to discuss this problem. Many thoughts were exchanged and a few are herewith presented:

Entrance into a hospital should signal a warm and sympathetic welcome for the patient. This should begin with the admissions officer, who sets the tone as the first hospital representative to greet the patient. Anxious friends or relatives who come along deserve tactful, courteous handling. Their coöperation must be sought, particularly in the case of children, to help allay fears and tensions generated by the new environment and the world of strangers about them.

Self-introduction by the head nurse and by succeeding personnel, with an explanation of hospital routine and procedures which need to be done, should be practiced.

The ordinary creature comforts should be maintained. There is no excuse for drab rooms, inadequate shower and bathroom facilities, poor beds, no air-conditioning, faulty diets, and food tastelessly prepared. There is no need for a schedule that awakens people too early in the morning or puts them to sleep too early in the evening, that feeds a patient at odd hours or reverses the customary heavy meal from dinner to lunch.

There should be a way to segregate the acutely ill and to concentrate nursing care upon them. There should be a way to shift them progressively to other quarters as they get well and can care more for themselves.

Above all, there is need to preserve the dignity of the individual and to meet the need for kindness and understanding, for reassurance and encouragement on the part of all personnel who come in contact with patients.

The hospital architect in designing the new hospital must bear in mind this changing trend in hospital philosophy. One bathroom for 15 patients is not enough. One shower in a hospital wing is not enough. "Almost well" patients can use recreation rooms, cafeterias, or "sit-down" restaurants. "Noise proofing" helps nerves and sleep, yet even our most modern hospitals have strange hums and clatters and whines, public address and page systems that are a menace to sanity, and halls and walls that reverberate with footsteps and voices of congregated employees or visitors.

In summary, then, our hospitals need to revise outmoded, annoying routines. They need intensified improvement of creature comforts. They need personnel dedicated to administer courtesy, kindness, and encouragement to the patient and to the family. They need a revised "bill of rights" for the patient, and, with thought and plan and desire to serve, our patients will respond in kind. Our hospitals can be the health-restoring, humane institutions they ought to be.

Harry S. Douglas, M.D.

JUVENILE DELINQUENCY

When an 11-year-old boy burns down a school and another manufactures bombs to throw in public libraries and to burn down his teacher's house, everyone in the community, including the medical component, is properly shocked. These events have occurred in the Washington, D.C. area. The New York story of gang killings and similar atrocities are not overdramatized by newspaper reporting but are real and common and are not limited to New York. These terrible antisocial activities amounting to amorality in their basic analysis are broadly attributable to an increasingly large segment of our pre-adolescent and adolescent populations. A total of 258,818 children 17 years or younger were arrested in 1957 on criminal charges. One hundred thirty-three children were charged with murder, and there were 11 deaths in the New York City juvenile gang wars in this summer alone. The many crimes perpetrated by youth are so commonplace today that they hardly make news The large number of offensive, deadly crimes committed by juvenile delinquents represents only a small segment of the total incidence of antisocial activities of young felons. Vandalism, physical assault, thefts, burglaries, sex crimes, liquor offenses and lesser crimes have increased in number to such a magnitude that the judiciary find their facilities insufficient to adequately process the ones that are caught perpetrating these acts.

Physicians, as responsible members of the community, have more than a parent's interest at stake in this complex disease. They must accept their role as leaders in analyzing the cause and in practicing preventive medicine at a most significant level. Primarily, they must learn to recognize the early manifestations of antisocial behavior and act directly as a trusted counselor to the parents and their children. They must also learn to coördinate their efforts with the many other disciplines operating in the community that are dedicated to finding the solution to this problem. While delinquency probably occurs more commonly in children not under the care of a private physician, the magnitude of the problem touches all physicians caring for children, and it is important that we acquaint ourselves with the etiology, symptoms, and the treatment of this disorder.

The general awareness among physicians of these responsibilities is reflected by the increasing prominence given the subject in programs of various medical societies. Recently a Conference on Juvenile Delinquency, sponsored by the American Academy of Pediatrics and the Community Council of Greater New York, was held at Arden House in Harriman, New York. All interested disciplines contributed to this Conference, and the role of the physician together with his responsibilities was stressed. Dr. P. A. McLendon, Chairman of the Committee on Juvenile Delinquency of AAP, recently reported the conclusions of this Conference at the annual meeting of the American Academy of Pediatrics in Chicago, and a full report of this important seminar will be published in a forthcoming issue of *Pediatrics*. Similarly, the subject will have a prominent share of program time at the forthcoming White House Conference on Child Health.

From the conclusions of the Arden House Conference, the role of the physician, particularly the pediatrician, in working with the family toward the prevention of juvenile delinquency was envisaged as 7-fold:

1. Case-finder: studying the family, the child under supervision, and his siblings for signs of possible progressively antisocial behavior.

2. Counsellor: assisting in the avoidance of major difficulties through appropriate intervention education where the family has the capacity to understand and apply recom-

mendations, and therapeutic, where such family faculties must be aided.

3. Therapist: providing mental hygiene first-aid even before diagnosis and initial treatment.

4. Referral agent and consultant: requisitioning adjunctive services that afford other resources and skills.

5. Citizen: seeing that such adjunctive services are made available and that they are directly focused on the family as a unit.

6. Teacher: encouraging and obtaining educational programs which improve the skill of the practitioner in social pediatrics. This role would be particularly applicable to medical schools and to intern and resident training programs.

7. Investigator: developing research where the relationship between the family's problems and the child's difficulties is not well documented.

Opportunities for the physician to play these various roles exist in every type of practice. They occur in private practice, in public health service, such as well-baby clinics and school health work, and in voluntary health and welfare activities. Particularly, the pediatrician may exert a considerable role in his private practice, not only by acting directly, but, as a coördinator, by bringing together other interested agencies to help a specific family when the occasion arises.

The causative factors of juvenile delinquency are complex, multiple, and interrelated, and they derive from the individual, his constitution and heritage, from the family situation, and from community-centered causes. The physicians' role in the prevention of this horrible, social ill is probably second only in importance to the role of those concerned with developing a strong religious sense in a child.

F. G. B.

CLINICAL CENTER STUDIES ON THYROID CANCER AND CHONDROSARCOMA

The coöperation of physicians in nearby areas is requested in studies of carcinoma of the thyroid gland and chondrosarcoma being conducted by the Radiation Branch of the National Cancer Institute in the Clinical Center of the National Institutes of Health.

Carcinoma of the thyroid gland. This study, which has as its primary purpose a search for therapeutic methods which may favorably affect the course of this disease, has 3 major components. The first 2 components are concerned with the relationships of structure and function of tumor components to hormonal influences and to the uptake of radioactive iodine. The third component is related to the study, development, and detection of autoimmune antibodies developed in the patient's own thyroid gland and thyroid cancer as the antigen and the possible response of thyroid cancer to this antigen.

Patients appropriate to this program will be those in whom the diagnosis of cancer of the thyroid is established and who present either without prior treatment or with demonstrable persistent or recurrent disease after prior treatment.

Chondrosarcoma. The primary purpose of the study is to determine the possible effects of large doses of radioactive Sulfur-35 on patients with inoperable but accessible (for biopsy) chondrosarcoma.

Recent studies at the Institute have shown that the uptake of Sulfur-35 by chondrocytes and the ground substance of the cellular and cartilaginous components of chondrosarcoma is higher by factors of 10 or more than the uptake in other human tissues. It is possible, therefore, that the uptake of radioactive Sulfur-35 by chondrosarcoma might be sufficient to put the radiation dose within the range of therapeutic effect on this tumor. It is known, however, from our previous studies that such doses have a severely depressive effect on hematopoiesis and, as an additional part of the study, this effect and means of preventing it are being studied.

Patients appropriate for this study are those

(*Continued on page 734*)

In and Out of Focus

BY THE OBSERVER

Many Tongues

Some months ago, Medical Bureau, the Medical Society's telephone exchange, received a call from the Japanese Embassy requesting the name of a physician who could speak Japanese. Fortunately, the Bureau was able to provide this information.

Shortly thereafter the Bureau was asked by an official of a national organization with headquarters in Washington to supply him with a list of physicians speaking foreign languages. He explained that an international conference of educators was scheduled to be held in the Nation's Capital in the near future and that this information would be most helpful if any of the delegates not speaking English became ill. The Bureau promised its assistance and a review of the Society's membership records was undertaken. As a result, the Bureau now has a list of physicians who speak one or more foreign languages and data pertinent thereto.

The greatest surprise in developing this information was the number of physicians having knowledge of languages other than English and the variety of languages with which they are more or less familiar.

In the breakdown which follows, the degree of familiarity with the language is not indicated. It can be safely stated, however, that it varies considerably. For example, several said that they are familiar with French, German, and Spanish. Undoubtedly a substantial number of them acquired their knowledge of these languages in high school or college, or both, and may not be too adept in conversation. Recently applicants for membership in the Society appearing before the Board of Credentials were asked if they were well versed in the foreign languages listed in their applications. A number of them said they understood the languages far better than they could write or speak them.

In the list which follows the countries of origin of the physicians are given. This may or may not have any significance. Several of the foreign-born came to this country as infants and therefore have little knowledge of "the old country." What they know about their native language may have been learned from their parents.

There have been a number of physicians in recent years who have come to Washington from foreign countries as adults. A few were in their middle years or past. They are naturally proficient in their native tongue and a number of them are linguists. This accounts for duplications on the list, the same individual being listed under different languages.

Here, then, are the number of members in the Society who speak foreign languages and the countries of their birth.

GERMAN—104

United States	(70)	Greece	(1)
Germany	(13)	Java	(1)
Hungary	(4)	Lebanon	(1)
Poland	(4)	Roumania	(1)
Austria	(2)	Russia	(1)
China	(1)	Sweden	(1)
Denmark	(1)	Switzerland	(1)
England	(1)	Ukraine	(1)

FRENCH—99

United States	(62)		
Germany	(8)	Cuba	(1)
France	(4)	Hungary	(1)
England	(3)	Java	(1)
Poland	(3)	Lebanon	(1)
China	(2)	Portugal	(1)
Greece	(2)	Philippine Islands	(1)
Turkey	(2)	Russia	(1)
Austria	(1)	Scotland	(1)
British West Indies	(1)	Switzerland	(1)
Canada	(1)	Turkey	(1)

SPANISH—46

United States	(31)	France	(1)
Cuba	(2)	Hungary	(1)
Philippine Islands	(2)	Mexico	(1)
Argentina	(1)	Panama	(1)
Central America	(1)	Poland	(1)
Dominican Republic	(1)	Puerto Rico	(1)
Ecuador	(1)	Russia	(1)

ITALIAN—17

United States	(14)	Poland	(1)
Italy	(1)	Russia	(1)

GREEK—7

United States	(3)
Greece	(4)

POLISH—5

Poland	(2)	Germany	(1)
Austria	(1)	United States	(1)

TURKISH—2

Turkey	(2)

MALAYAN—1

United States	(1)

UKRAINIAN—2

Austria	(1)
Ukraine	(1)

ARMENIAN—1

Iran	(1)

PERSIAN—2

Iran	(1)
Germany	(1)

CHINESE—7

China	(6)
United States	(1)

DANISH—2

Denmark	(1)
China	(1)

NORWEGIAN—1

Denmark	(1)

SWEDISH—3

Denmark	(1)
Sweden	(1)
United States	(1)

HUNGARIAN—4

Hungary	(4)

JAPANESE—1

United States	(1)

RUSSIAN—7

Poland	(3)
Russia	(3)
Ukraine	(1)

HEBREW—7

United States	(3)		
Lebanon	(1)	Russia	(1)
Poland	(1)	Ukraine	(1)

ARABIC—3

Lebanon	(1)
Palestine	(1)
Turkey	(1)

YUGOSLAVIAN—1

Russia	(1)

LONKUNDO (Central African language—Belgian Congo)—1

United States	(1)

PORTUGUESE—3

United States	(2)
Portugal	(1)

Names of physicians on the above list are available to members of the Society and to groups and organizations that are entitled to this information.

State Medical Practice Acts

The late Dr. George C. Ruhland, for many years Director of Public Health and Secretary of the Commission on Licensure in the District of Columbia, was a strong advocate of a national licensing body. It did not make sense to him that a physician licensed in a state having rigorous licensure requirements was not acceptable in another because of some variance in the licensing law or in the regulations promulgated by the state examining board. He thought state boards were unnecessary and their activities a waste of time and taxpayers' money. Dr. Ruhland's views fell on deaf ears and it is not likely that a proposal such as his will ever be realized. States are jealous of their prerogatives and guard them zealously.

The point of these comments is not to take up the cudgel for or against a national licensing board, but to present as a matter of interest to readers of this column the varying requirements of state medical boards as reported in the monthly medicolegal newsletter, *The Doctor & the Law.* According to this publication, the state licensing acts are "anything but uniform." For example, only 35 states require by law that an applicant for a license to practice medicine be a graduate of an approved medical school. Other requirements illustrating a lack of uniformity are:

32 states require that the applicant be of good character
22, that an applicant must be 21 years of age
16, that he must be a citizen of the United States
15, that he must have undergone an approved internship
2, that he is free from drug or liquor addiction
1, that he has not been convicted of a felony
9, that he is a graduate of an accredited high school
11, that he has had 2 years of college
1, that he has had 3 years of college

The fact that some of the basic requirements listed above are not spelled out in the various acts does not mean that they are not in force by regulation. On the contrary, all of the examining boards, for example, grant a license to practice medicine only to a graduate of an approved medical school. The same can be said for several of the other provisions referred to above.

Where revocation of license is concerned, there is a greater variance in requirements than in those relating to licensure. Some interesting examples are:

34 states revoke a license for the commission of an abortion
37, for being a chronic alcoholic or drug addict
36, for unprofessional conduct
32, for making false or fraudulent statements in an application for a license
28, for conviction of a felony
22, for obtaining a fee for representing to cure an incurable disease
18, for advertising the regulation or reëstablishing of menses

PATIENT
DOC
ATTORNEY
JB

There is a scattering of provisions for revocation of licenses on other grounds, such as advertising the ability to cure certain specific diseases; employment of a physician by a person who advertises unlawfully; prescribing liquor for beverage purposes; neglecting a patient in a critical condition; and encouraging the filing of a malpractice suit.

Speaking through a fictitious physician, the newsletter commends the state medical boards for doing a "magnificent job" despite the "hodgepodge of laws." Physicians serving on these boards, the doctor said, deserve the gratitude of the public and the profession.

Dr. Ruhland may have been visionary in proposing a national licensing board. However, in light of the facts set forth here, one must admit the present situation leaves much to be desired. Certainly, the least that should be done is to bring about some uniformity in the basic provisions of state licensing acts.

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The Medical Lobby

A lobbyist, in the minds of most people, is a person engaged in questionable political activity. This is unfortunate because it isn't necessarily so.

Webster's New World Dictionary defines a lobbyist as "a person who tries to get legislators to introduce or vote for measures favorable to a special interest that he represents." There are, of course, many examples of lobbyists who have used dishonorable methods in an effort to influence legislators. However, there are a far greater number who endeavor to win support for their views by honest means. Their activity is not only proper but frequently helpful to the legislator who seeks factual information and varying points of view.

From time to time the American Medical Association has been pictured by its critics as having a powerful medical lobby, more concerned with the selfish interests of its members than public welfare. Some labor leaders have been very vocal on this score. For example, Mr. Walter Reuther, in the course of his testimony on the Forand Bill, questioned the political activities of the AMA, stating that "doctors should save their money and not waste it on the high-powered Madison Avenue hucksters." This brought the retort from Representative Bruce Alger of Texas that "Maybe some of the union members would say the same thing about all the money you could save on legislative issues."

It need hardly be said that Mr. Reuther is a most effective lobbyist for his organization. The United Auto Workers, like other powerful unions, has a sizable "war chest" with which to help achieve its objectives. There can be no objection to this provided the funds at its disposal are properly and legally expended. If this is true of the UAW, it is equally true of the AMA or any other organization.

The AMA's record where legislation is concerned is not one of which it need be ashamed. On the contrary, with possibly one exception, it has conducted its political activities successfully and with a dignity which befits a professional organization. The exception which comes to mind occurred several years ago when the Association sponsored a rather flamboyant campaign against a Federal tax-supported system of medical care.

Not all physicians agree with the stand of the AMA on current controversial issues. In fact, a substantial number of them differ strongly with the Association and criticize its too frequently negative position. However, it should be remembered that policies of the organization are laid down by the organization's House of Delegates, a body in which all states and territories of the United States are represented. As in all democratic bodies, the majority in the House decide the course to be pursued. If a sufficient number of members of the AMA are dissatisfied with its actions, the remedy lies in the state medical societies which elect delegates to the House.

So long as the "medical lobby," speaking for the AMA's House of Delegates, or the lobby of any other organization honestly presents its case to public officials and to the people, there is no justifiable basis for criticism. As a matter of fact, lobbying at its best is not only the prerogative but the duty of every citizen or group of citizens.

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An Answer to Critics

Criticism is not infrequently leveled at pharmaceutical companies because of (1) the objectionable "nature and content of pharmaceutical advertisements" and (2) the "growing abuse of trade names with what seems a deliberate effort to conceal the chemical makeup of new drugs and to refer as little as possible to the generic or public name of new drugs."

Dr. Lee D. van Antwerp, Medical Editor of G. D. Searle and Company and Past President of the American Medical Writers' Association, vigorously defended the "pharmaceutical industry" against these charges when he addressed the State Medical Journal Conference in Chicago last October.

Anent advertising copy, Dr. van Antwerp said:

"It is manifestly impossible to tell all about a drug in the space available in an advertisement. Lacking such available space it is necessary to abbreviate the story so that the physician will have some information concerning a drug in order that he may decide whether he has a use for it in the care of his patients.

"A physician must be naïve indeed who believes that a drug has no toxicity, is one hundred per cent successful, has no undesired actions and requires no precaution in administration merely because all of this information is not found in every advertisement in detail. And speaking of naïveté, surely no critic of advertisement content can believe that the physician's only source of information regarding a drug is the advertisements he reads or that he would prescribe a drug on that basis alone . . . .

"I do not believe it possible to successfully sell a worthless product to the medical profession—please note, to the *medical profession*—regardless of the claims made for it or of the amount of money and effort expended in its promotion. The medical profession is much too well trained to be so easily and completely influenced.

"I do believe that it might be possible to gain initial acceptance of such a drug by such methods but only a little experience by the physician would reveal that the product is worthless. On the other hand, if we are speaking of danger rather than lack of action, then I can assure you we have highly efficient bodies who see that adequate warning is given. As a corollary to this, I might add that even though it were possible to successfully promote a product by unacceptable methods, no company not bent on corporate suicide would attempt such methods. A company's reputation is much too fragile a substance to risk the use of questionable methods of promotion."

Dr. van Antwerp placed strong emphasis on the highly trained medical personnel employed by the ethical pharmaceutical firms and the large sums spent by them in research. He quoted the following from an address by Dr. Ernest H. Volwiler of Abbott Laboratories:

"'A recent study by the Pharmaceutical Manufacturers' Association disclosed that the industry in 1958 tested about 115,000 substances. A great many more materials underwent routine preliminary screening for physiological activity. Only 1,900 substances (or about 1.5 per cent) reached the clinical testing stage. All of this resulted in the market introduction of 20 to 30 really new drugs, . . .' about 2-hundredths of 1 per cent of the original number of newly created chemical substances.

"Pharmaceutical companies will spend this year even more on research than the $170 million spent in 1958—probably in the neighborhood of 200 million."

With respect to the abuse of trade names, Dr. van Antwerp vigorously denied the charge made by Dr. Chauncey Leake, President of the American Society for Pharmacology and Experimental Therapeutics, that there was "growing abuse of trade names" in the industry.

"It might surprise Dr. Leake to know," Dr. van Antwerp said, "that we have no objection whatever to the use of generic names in published reports; in fact, . . . this is a very common practice at the present time. I do take very definite exception to the unfortunate and unwarranted tone of his communication and to his accusation that deliberate attempts are made at concealing the chemistry of new drugs.

* * * * *

"The chemistry of drugs is no secret and appears in our brochures for an indefinite time and on the label of every bottle of a new drug for at least two years. The problem . . . is how is it humanly possible to make the chemistry at all informative in rememberable names even though the chemistry concerned were then meaningful to the largest segment of the profession?"

Dr. van Antwerp said that his industry had adopted a Statement of Principles to guide it in drug promotion. He emphasized that the Statement was not a "composition of high sounding phrases. It is a working guide which is actually used to accomplish its stated purposes. We are making an honest and sincere attempt to raise standards of promotion and to handle within the structure of our Association any deviations from these standards."

Finally, Dr. van Antwerp said, "I assure you the industry is more than anxious to do everything possible to be of every possible service to the medical and allied professions. It is unnecessary to point out that the very continued existence of the individual company depends on the good will of the profession and the degree of service supplied to it."

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They Spell Trouble

Many letters are received at the Medical Society's Executive Offices from people who have questions, complaints, or opinions about doctors individually and collectively. An attempt is made to weed out communications from cranks and the mentally disturbed. This is not always as simple as it would seem, for some decidedly queer individuals are skillful in concealing their aberrations.

Newspaper stories about the Society or its officers in which there is a hint of controversy are certain to stimulate letter-writers. Not all of them, of course, are from individuals with distorted mentalities. In fact, most are from well-balanced and serious people. However, it is important to detect the few who are not, because they could, if not recognized, bring about an intolerable situation.

Some of the communications received are amusing. For example, several months ago there was a man who kept up a steady barrage of telegrams. On one occasion he informed the Society by wire that his father was "a very brilliant man" and that he had been "picked to devise, formulate and approve personnel for all security setups for the atomic bomb here and abroad."

The following is quoted from one of a hundred or so postcards from another correspondent. She compared the Society's treatment of her as the combination of a "highly intelligent Marie Antoinette and the genius Huey P. Long. The first said, 'Let them eat cake,' and the second asked immediately after an assassin had shot him, 'I wonder why he did it'."

In the beginning, such letters are a source of amusement, but in time they cause irritation and not infrequently anxiety. An illustration of this is an experience your Observer had many years ago when he was executive officer of a Midwestern county medical society. Late one afternoon a middle-aged couple came to his office, obviously upset. They explained to him that the husband had had some minor plastic surgery on his upper lip and the result was an unsightly scar. They wished something done about the surgeon who, in their opinion, had been responsible. Your Observer then made a statement he was to regret. He attempted to reassure the couple, both of whom were in tears, by saying that the result appeared to him unusually good.

At the time his comment seemed innocuous enough, but he couldn't have been more wrong. For several years thereafter he received long rambling letters, telegrams, and even threats of violence. The man was finally incarcerated but later escaped. It was a long time before this individual was confined to a mental institution. In the meantime he made life miserable not only for your Observer but for the physicians who had attended him.

There were two mistakes made in this instance, the first by the surgeon, who should have recognized the emotional instability of the patient and taken into account the elective nature of the operation. In fact, two older physicians whom the man had seen refused to perform the operation. Your Observer made a mistake in making any comment whatsoever. He should have referred the matter to the Grievance Committee of the Society.

All physicians have had patients who deviate emotionally from what is considered normal. These patients have frequently given them a hard time and, in some instances, sleepless nights. Many a physician wishes that he had referred such patients elsewhere, or at least refrained from making comments orally or in writing that he had cause to regret.

T. W.

CEREBRAL PALSY: THE SCOPE OF THE PROBLEM IN THE METROPOLITAN AREA OF THE DISTRICT OF COLUMBIA

WILLIAM P. ARGY, M.D.

Medical Director, District of Columbia Society for Crippled Children, Inc.

To our knowledge no complete statistics are available to indicate the incidence of cerebral palsy. Computations are most commonly made from formulae developed as a result of a survey made in Schenectady, New York[1] or as a result of sampling by Phelps.[2] The former is based on the birth incidence, the latter on the total population.

The Schenectady survey established a yearly incidence of 5.9 cases per 1,000 births, while Phelps determined that there were 7 cases per year for every 100,000 population. Therefore:

$$\frac{\text{Birth Rate per year} \times 5.9}{1{,}000} = \text{Incidence per year according to one formula}$$

$$\frac{\text{Population} \times 7}{100{,}000} = \text{Incidence per year according to the other.}$$

The birth statistics for a 6-year period in 1952 through 1957 inclusive were obtained from the Health Departments of the District of Columbia, Arlington County, Alexandria City and Montgomery County for their respective political zones, from the State Health Department of Virginia for Falls Church and Fairfax County, and from the Bureau of Vital Statistics of the Department of Health, Education, and Welfare for Prince Georges County, Maryland (table 1).

TABLE 1

The Birth Incidence in the Various Political Divisions of the Washington Metropolitan Area

	District of Columbia	Arlington County (Va.)	Alexandria City (Va.)	Fairfax County and Falls Church (Va.)	Prince Georges County (Md.)	Montgomery County (Md.)
1952	20,512	3,651	2,335	4,256	6,920	5,433
1953	21,192	3,679	2,439	4,732	6,924	5,952
1954	20,486	3,482	2,629	5,160	7,058	6,016
1955	19,960	3,291	2,623	5,474	7,534	6,162
1956	19,724	3,416	3,101	5,874	8,288	6,294
1957	19,585	3,778	3,208	5,979	8,618	5,937
Total	121,459	21,297	16,335	31,475	45,342	35,794

The population for the various regions (table 2) was obtained from the Washington Board of Trade.

TABLE 2

Population of the Metropolitan Area of the District of Columbia

January 1, 1959

Washington, D.C.	870,000
Arlington County	171,500
Alexandria City	91,000
Fairfax & Falls Church	242,000
Prince Georges County	350,000
Montgomery County	332,000
	1,056,500

In estimating the incidence according to the Schenectady formula, 6 instead of 5.9 per 1,000 births was deemed to be more practical. A marked difference was found in the results obtained with the application of the 2 formulae (table 3).

TABLE 3

Estimation of the Incidence of Cerebral Palsy in the Metropolitan Area with the Application of the Schenectady and Phelps Formulae

	Schenectady	Phelps
Washington, D.C.	121	61
Arlington County	21	12
Alexandria City	16	6
Fairfax & Falls Church	31	17
Prince Georges County	45	25
Montgomery County	35	23
TOTAL	269	144

These children do not necessarily need the same type of treatment. Some need no treatment, while others will always need custodial care, be it in their own home or in an institution. According to the Schenectady survey[1] the type of approach to the problem was found to be as follows:

	Per cent
Custodial care	18
Hospital school	8
Outpatient school	65
No treatment	9

With the use of these percentages, a more extensive analysis can be made, the results of which should enable us to determine the necessary facilities for adequately solving the problem (table 4).

TABLE 4

Division of Cases According to the Type of Treatment Necessary

Locality	Custodial Care		Hospital School		Outpatient		No Treatment	
	N. Y.	Phelps	N. Y.	Phelps	N. Y.	Phelps	N. Y.	Phelps
Washington, D.C.	22	11	10	5	79	40	11	5
Arlington	4	2	2	1	14	7	2	1
Alexandria	3	1	2	1	10	4	2	1
Fairfax & Falls Church	6	3	2	1	20	11	3	2
Prince Georges Co.	8	4	4	2	29	15	4	2
Montgomery Co.	6	3	3	2	23	15	3	2
Total	49	24	23	12	175	92	25	13

These figures give an estimation of the yearly incidence. To determine the prevalence of any age group the incidence multiplied by the number of years involved would give the number of children expected to be included during that span. For example, the number of children 15 years of age or under would be 4,035 or 2,160, depending upon the formula used. Of these, 2,625 or 1,380, respectively, could be treated in an outpatient school situation.

This dissertation presents nothing new. It is merely a statistical analysis of a local problem with the use of established formulae. It has been our experience that the Phelps Formula is a more accurate index of that problem. We agree that no true knowledge can be obtained without an actual survey. The expense of this would be prohibitive. Another factor that has to be taken into consideration is the transient nature of a sizable proportion of the Metropolitan population. This alone would negate any accurate statistical study, particularly if it were based on residential births.

Our experience has also shown that many of the children who would ordinarily be consigned to custodial care can be developed to a point where they can conduct activities of daily living and such care no longer becomes mandatory. Furthermore, those who, because of financial reasons, cannot receive hospital school care can also improve although more slowly, in an outpatient facility. Therefore, the establishment of new, and the development of existing outpatient school facilities seem to be the first and most important step in the solution at this time. It is a civil and civic challenge.

SUMMARY

An estimate of the incidence of cerebral palsy in the subdivisions of the Metropolitan Area of the District of Columbia has been presented. A comparison was made between the results obtained by the use of the Schenectady and the Phelps formulae. It is believed that the latter would be a more accurate standard for guidance.

BIBLIOGRAPHY

1. Report of the New York State Joint Legislative Committee to study the problem of cerebral palsy. Legislative Documents, No. 55, 1949.
2. PHELPS, W. M.: The Farthest Corner; an Outline of the Cerebral Palsy Problem. Chicago: National Society for Crippled Children and Adults, Inc., 1944.

NEW ORCHESTRA CONDUCTOR

Dr. James A. Gannon, Jr., a leading Washington violinist, has been appointed conductor of the Doctors Symphony Orchestra, succeeding Mr. George Manos. Dr. Gannon started his career as violin soloist with the Georgetown Glee Club. This versatile tennis-playing musician-physician has conducted orchestras in Washington, Louisville, and, during his Army service, in England and Italy. After the War, while still in the service, he appeared as guest conductor for the U. S. Army Band.

Rehearsals for the Symphony are held at 8:15 p.m. on Thursdays in the auditorium of the Perpetual Building and Loan Association Building in Bethesda. Qualified musicians are still being sought—not limited to medical personnel. Those interested may contact Dr. Gannon or Dr. Robert Montgomery, or come and bring your instrument to the next rehearsal.

Cancer Page

CANCER FOLLOWING IRRADIATION IN CHILDHOOD

The possibility that thyroid cancer might be related to previous irradiation was suggested in 1950 by the report that 10 of 28 patients with thyroid cancer had been irradiated in childhood. This stimulated a widespread investigation which has continued to the present time, and more than 40 papers relative to this subject have now been published. Among the more important contributions was the report of 13 children with thyroid carcinoma, all of whom had received irradiation to the head and neck region during infancy or childhood. A short time later a different type of study was published concerning the subsequent histories of 1,400 children who received X-ray therapy to the thymus gland. In this group there was a significantly higher incidence of thyroid cancer and leukemia than in the control group or in the normal population. From England came a report of the increased incidence of leukemia in patients who had been irradiated for ankylosing spondylitis. Another study suggested that diagnostic irradiation in utero may be a factor in the development of cancer and leukemia in childhood. As yet unpublished is a series of 150 patients with thyroid cancer, 65 per cent of whom had received irradiation to the head and neck during infancy or childhood. There is good reason to believe that this figure is low because the nature of the study precluded personal interviews. Cases have been found in every instance in which a concerted effort was made by means of personal interviews with parents and thorough examination of hospital records.

In the greatest number of cases X-ray therapy was directed to the chest for symptoms of what was considered to be an "enlarged thymus gland." The next largest group consisted of those who had been irradiated in childhood for hypertrophied tonsils and adenoids. A few children had been treated for hemangiomas and nevi. The dosage had to be estimated in many instances, but in most cases the thyroid gland probably received an amount of irradiation within the range of 400 to 700 roentgens. It is of interest to note that the patients reported from Europe were not treated for so-called enlarged thymus glands.

Most of the thyroid cancers reported to date have appeared from 7 to 10 years after irradiation. This is in contrast to the interval in adults, which is 18 to 20 years. Only a few cases of thyroid carcinoma have been reported following irradiation of adults. The data now available strongly suggest that the infant's thyroid gland is more sensitive to ionizing irradiation than that of adults. An interesting hypothesis has been advanced which may be applicable to the present situation. There may be (1) an initiating phase in which a carcinogen produces latent tumor cells, and (2) a promoting phase mediated through endogenous thyrotropic hormone which causes the cells to develop into actual tumors. Others believe that there is no direct effect of irradiation on the thyroid gland, but that the cancer results from pituitary stimulation of thyroid cells previously damaged by irradiation. The data available do not prove that irradiation causes thyroid cancer or leukemia. They do show an undeniable relationship, and this should serve to stop the indiscriminate irradiation of infants and children for benign conditions when other methods of therapy are available.

AVAILABLE TO CANCER PATIENTS: Free dressings; free sickroom equipment; homemakers; counseling service; financial assistance to eligible families to help meet the costs of hospitalization and treatment; and medications and the cost of care in nursing homes, in limited amounts, to eligible members in the District.

For further information on these and other services available to your patients, please call the American Cancer Society, District of Columbia Division, Inc., 810 18th Street, N.W., Executive 3-3690.

On the Lighter Side

Once or twice a year this column feels the need of letting one-half of the medical profession know what the other half is doing sportswise. Today we have the bowlers of the D. C. Medical-Dental Bowling League and their individual averages as of Friday, November 13. Of course, by the time this issue gets into your hands the team standings and the individual records will have undergone some scrambling. Naturally, statistics have no glamour, but I can assure you that every doctor named on this record is a dedicated bowler. And anyway, since this is the Christmas season, a little change from reading about jingle bells may be just what Santa Claus ordered.

Team Standings

Place	Team	HG	HS	Won	Lost	Pinfall
1	Sibley #1	581	1631	21	6	14,159
2	Sibley #2	567	1611	20	7	14,197
3	Columbia	564	1596	20	7	13,908
4	Suburban	589	1712	18	9	14,257
5	Garfield	590	1625	17	10	13,834
6	Children's	619	1664	16	11	14,020
7	Providence	557	1571	16	11	13,421
8	Emergency	552	1535	13	14	13,346
9	Beta	501	1460	13	14	12,662
10	Alpha	557	1568	13	14	10,600
11	Doctors	539	1501	12	15	13,233
12	Casualty	519	1489	11	16	9,921

Individual Records

Team	G	Sp	St	HG	HS	Avg.
Alpha						
Kogan	18	26	4	128	338	98
Bouchard	24	43	13	135	348	101
Molnick	21	27	10	117	323	101
Weisberg	21	45	13	135	341	105
LeBlanc	18	26	14	139	351	106
Beta						
Douglas	18	16	1	107	290	91
Berman	21	41	3	125	311	98
Shiflet	18	16	9	132	320	95
Bowie	15	19	9	122	344	98
M. Silverman	12	14	3	104	296	94

Individual Records—Continued

Team	G	Sp	St	HG	HS	Avg.
Casualty						
Dibbs	24	28	9	109	301	93
Canton	24	29	10	119	315	98
Zukerman	6	5	3	112	288	96
Abramson	5	10	0	122	294	97
Hazard	3	0	0	75	201	67
Children's						
Bacon	27	35	22	137	347	101
Kessler	23	45	10	129	334	105
Kay	21	45	6	131	341	108
MacDonald	21	56	10	165	367	114
Resta	21	40	9	120	338	104
Cook	12	13	3	106	297	92
Columbia						
Kadan	20	45	6	127	339	105
C. Reeves	27	42	20	123	348	105
Hodge	24	56	11	133	337	107
Connolly	23	41	7	130	344	100
Sealfon	21	25	11	112	304	96
McDonald	21	32	12	122	328	101
Doctors						
Brown	21	38	14	138	349	103
Perkins	25	33	10	122	323	97
Carter	23	26	11	115	305	95
Gruver	18	29	5	115	307	98
Thomas	17	21	8	127	331	97
Golden	16	20	4	108	310	95
Emergency						
Henesy	24	35	9	116	331	99
Schumacher	21	29	7	136	347	100
Hawfield	24	37	14	136	333	103
Brawner	21	33	7	123	329	101
Sager	15	13	2	100	283	88
Garfield						
Klein	24	33	4	132	333	95
Oberman	26	42	23	129	343	105
Cosimano	24	37	15	125	323	101
Tehan	23	35	9	127	335	103
Cushard	21	42	11	140	366	106
Hughes	17	24	9	116	304	100

Individual Records—Continued

TEAM	G	SP	ST	HG	HS	AVG.
PROVIDENCE						
Crain	27	57	20	137	369	109
Heiges	24	28	12	123	331	97
Rutstein	24	52	14	136	347	108
Cashman	21	20	5	125	324	92
Kane	18	24	9	138	328	97
SIBLEY #1						
Baiers	27	74	15	145	384	116
Belair	27	40	7	124	334	97
Richardson	27	56	17	135	388	107
Ball	27	49	15	128	346	103
Finnegan	24	35	5	112	321	98
SIBLEY #2						
McLain	24	37	14	125	343	103
Van K	27	74	20	149	402	117
Kirchner	24	41	12	120	332	101
Hageage	24	52	13	172	373	108
Grubb	21	30	10	130	336	99
Morse	21	38	8	133	338	103
SUBURBAN						
Betz	27	73	15	133	371	113
Porton	27	39	19	131	377	103
Andrews	27	39	9	127	328	96
Ottman	27	48	12	141	362	104
Meyer	21	50	18	139	384	115
SUBSTITUTES						
Aronson	3	4	0	98	276	92
Castro	3	2	3	119	305	96
D'Angelo	3	2	1	104	282	94
Dorman	3	2	0	102	256	87
Eig	3	5	1	124	328	107
Lloyd	3	3	2	118	297	99
Price	3	4	0	111	293	104
Quayle	5	6	3	126	334	100
Richtmeyer	3	8	3	131	346	100
C. Silverman	9	15	4	116	317	100
Tilley	21	23	8	111	313	96
Young	6	4	2	106	286	91

CHUCKLE NOTE: Speaking of sports—husband-hunting is the only sport in which the animal that gets caught has to buy the license.

J. EARL KADAN, M.D.

MEMBERSHIP

The following applicants for membership were duly elected to membership by the Executive Board, November 2, 1959, in accord with Chapter II, Article VIII, of the Constitution and By-laws of the Society.

Active Members

Habeeb Bacchus, 8602 Farrell Court, Chevy Chase, Md.
William R. Claytor, 133 Hamilton Street, N.W.
Edward E. Cornwell, Jr., D. C. General Hospital
Nikolas A. Janovski, 1926 16th Street, N.W.
Bernard Mathis Malloy, 825 New Hampshire Avenue, N.W.
Luther D. Robinson, St. Elizabeths Hospital
Joseph F. Schanno, 5212 Sangamore Road
Azad J. Vosger, 1801 Eye Street, N.W.
Jason Faht-Gong Yee, 1715 Upshur Street, N.W.

Associate Members

Helmut P. Arenz, 3107 19th Street, N.W.
Ernst H. Bremer, 4201 Massachusetts Avenue, N.W.
Edgar H. Hinman, 806 Connecticut Avenue, N.W.
Gerold K. Klein, 2500 Q Street, N.W.
David N. Robb, 5116 Middleton Lane, S.E., Camp Springs, Md.
Berry Rosenberg, 5102 Annapolis Road, Bladensburg, Md.

The following applicants for membership will be voted on at the meeting of the Executive Board, January 25, 1960.

For Active Membership

Garlick H. Bagby, University of Arkansas—1952
Franklin T. Brayer, University of Rochester—1944
Leonhard J. Hantsoo, University of Tartu (Estonia)—1931
Emile C. Nash, Meharry Medical College—1943
Marvin Wadler, University of Buffalo—1953

For Associate Membership

Vernon H. Balster, George Washington University—1957
Thomas Fulton Cleary, Georgetown University—1953
Scholem P. Feldstein, University of Hamburg (West Germany)—1928
Anthony S. Garofano, Georgetown University—1956
George A. Higgins, Jr., Harvard University—1942
George H. Mitchell, Jr., George Washington University—1958
Ahmet M. Ozbey, University of Istanbul (Turkey)—1943
Amos T. Pagter, Duke University—1955
Stan. Antoni Ziemnowicz, Jagellon University (Poland)—1938

For Resident-Intern Membership

George T. Economos, University of Vermont—1954
Daniel V. Voiss, University of Oregon—1957

News and Personals

MEETINGS

A Clinicopathologic Conference, sponsored by the Committee on Postgraduate Education of the Medical Society of the District of Columbia, will be held in the Medical Society's auditorium, Wednesday, January 13, at 8 p.m. Dr. Thomas M. Peery, Professor of Pathology at George Washington University School of Medicine, will moderate the conference. Leading the case discussion will be Dr. Benjamin Manchester, Assistant Clinical Professor of Medicine at George Washington. A good attendance is anticipated at this meeting, the first in a series to be sponsored by this committee.

The Joint Urological X-ray Conferences are held the last Tuesday of the month, October through May, in Room 101 of the Georgetown University Medical School Building, beginning at 8 p.m. Participating hospitals and institutions are Georgetown Hospital, George Washington Hospital, Howard University, D. C. General Hospital, Walter Reed Army Medical Center, Naval Medical Center, and Mt. Alto Veterans Urological Services. These meetings, chairmanned by Dr. William P. Herbst, are open to interested physicians.

The second of the **Combined Pediatric Centers' Conferences** will be held in the Joseph Wall Memorial Auditorium at Children's Hospital, January 28, at 8 p.m. The Pediatric Section of the U. S. Naval Hospital will present the program on the subject, "Total Body Radiation."

The Washington Psychiatric Society will meet in the auditorium of the D. C. Medical Society Building, January 22, at 8 p.m. Participating in a panel discussion on "Psychiatry and the Family" will be Drs. Sidney Berman, Lyman Wynne and Murray Bowen.

GENERAL NEWS

The Executive Board of the Medical Society of the District of Columbia held its regular meeting on November 2, 1959, with Dr. Preston A. McLendon, Chairman, presiding. Dr. James E. Chapman, Chairman of the Committee on Emergency Medical Service of the Washington Metropolitan Area, was authorized to represent the Society at the 10th County Medical Societies Civil Defense Conference in Chicago, November 7 and 8.

The Secretary advised the Board that Dr. Frank M. McChesney had sent a check to the Society for $500 to be used for whatever purposes were deemed suitable in connection with its activities. The gift was accepted with appreciation. Dr. McChesney made a previous gift in the same amount 2 years ago.

A communication from Mr. George B. McGovern, Secretary of Medical Service of the District of Columbia, stated that the Annual Meeting of Medical Service would be held in April and that the terms of Drs. Henry L. Darner, Ernest A. Gould and Edgar M. McPeak would expire at that time. Since Dr. Gould reportedly did not wish to be reëlected, the motion was made and carried that Drs. Darner, McPeak and C. Willard Camalier, Jr., be nominated to serve on the Board of Trustees of Medical Service for a 3-year period.

In a letter addressed to the Secretary, under date of September 22, 1959, Dr. Wallace M. Yater, Editor of the MEDICAL ANNALS, stated that Brig. General James H. Forsee had been selected by the Walter Reed Army Medical Center to serve as Consulting Editor to the ANNALS, replacing Major General Francis W. Pruitt, who retired from service, August 31. General Forsee is Chief of Professional Services and

Deputy Commander of Walter Reed Army Hospital. The Board approved the addition of General Forsee to the consulting staff.

President-elect Alfaro submitted a revised list of committee chairmen to serve on the local Committee on Arrangements for the AMA Clinical Session in 1960. The roster of chairmen is as follows:

Program: Dr. Alfred Brigulio, *Chairman*
  Dr. George E. Schreiner, *Vice Chairman*
Scientific Exhibit: Dr. J. Ross Veal, *Chairman*
  Dr. Henry D. Ecker, *Vice Chairman*
Color Television: Dr. Charles A. Hufnagel, *Chairman*
  Dr. Richard H. Todd, *Vice Chairman*
Motion Picture: Dr. Edward W. Nicklas, *Chairman*
  Dr. Paul R. Wilner, *Vice Chairman*
Registration: Dr. Oscar B. Hunter, *Chairman*
  Dr. Arch S. Russell, Jr., *Vice Chairman*
Housing: Dr. Ralph D. Whitley, *Chairman*
  Dr. C. Willard Camalier, Jr., *Vice Chairman*
Entertainment: Dr. Marcel Foret, *Chairman*
  Dr. Jack Kleh, *Vice Chairman*
Women Physicians: Dr. Josephine E. Renshaw
Publicity: Theodore Wiprud

The various departments of medicine at the **Washington Hospital Center** elected officers in October and November, effective January 1. The officers listed below are new electees in their departments. Other officers in these departments were reelected.

Gynecology: Dr. J. Keith Cromer, *Chairman*
  Dr. Robert B. Nelson, *Vive Chairman*
  Dr. Charles E. Townsend, *Secretary*
Internal Medicine: Dr. Charles W. Ordman, *Chairman*
  Dr. Paul R. Wilner, *Vice Chairman*
  Dr. Laurence E. Putnam, *Secretary*
Ophthalmology: Dr. Joseph Dessoff, *Chairman*
Otolaryngology: Dr. Irvin Feldman, *Chairman*
  Dr. Irving Hantman, *Vice Chairman*
Radiology: Dr. Forrest Schumacher, *Chairman*
  Dr. Ralph M. Caulk, *Vice Chairman*
General Surgery: Dr. Leon Gerber, *Vice Chairman*
Neurosurgery: Dr. William T. Spence, *Chairman*

Dr. Samuel M. Dodek was named Administrative Chairman of the combined Departments of Gynecology and Obstetrics, succeeding Dr. Herbert P. Ramsey.

All officers were reëlected by the following Departments: Pediatrics, Physical Medicine, Psychiatry, General Practice, Anesthesia, Obstetrics, Pathology, Surgery, Oral Surgery, Orthopedic Surgery, Plastic Surgery, Proctology, Thoracic Surgery, Urology, and Medical Education.

The Medical Board is made up of the chairmen of these departments and 4 additional members from the Department of Internal Medicine. New electees to the Medical Board for 1960 are Dr. Theodore J. Abernethy and Dr. Lawrence A. Rapee. Reëlected to the Board were Drs. Worth B. Daniels and Henry D. Ecker.

The Washington Heart Association has published a pamphlet which describes the various **research grants and fellowships** available for work in the cardiovascular field from the Washington Heart Association, the American Heart Association, the National Institutes of Health, and the Life Insurance Medical Research Fund. Grants-in-aid are made to nonprofit institutions, fellowships to qualified individuals who are graduates of approved medical schools, and summer fellowships to students in colleges interested in experience in research in sciences basic to medicine. A copy of the pamphlet may be secured from the Washington Heart Association, 1154 - 19th Street, N.W., Washington 6, D. C.; telephone Sterling 3-1397.

The Mead Dental Hospital, which was the first dental hospital in the United States when it was established in 1926, is now located in a completely renovated building at 1401 16th Street, N.W. A formal opening for inspection, followed by a reception, was held for dentists and physicians and their wives on Sunday afternoon, October 18.

The Hospital is staffed by Drs. Sterling V. Mead, Daniel F. Lynch, Marcus H. Burton, and Sterling G. Mead, all Associate members of the District of Columbia Medical Society. The Hospital is listed by the American Hospital Association, and is accredited by the Council on Hospital Dental Service of the American Dental Association.

Mr. Richard M. Loughery, Administrator of the Washington Hospital Center, was chosen **President-elect of the Maryland-District of Columbia-Dela-**

CALENDAR OF SPEAKERS

The following members of the Medical Society of the District of Columbia have addressed lay groups during the past several weeks. The Society maintains a Speakers Bureau, sponsored by the Committee on Public Information, through which requests for speakers for lay groups, including radio programs, can be filled.

Date	*Speaker*	*Subject or Title*	*Organization*
June 11	Dr. George Anagnos	Proposed Medical Care in the United States	Voice of America
June 17	Dr. Charlotte Donlan	Radiation Therapy Today	Zonta Club of Washington
August 22	Dr. John R. Cavanagh	Woman—The More Perceptive Sex	International Federation of Notre Dame deNamur Alumnae
August 28	Dr. Eloise W. Kailin	Hay Fever and Pollen Avoidance	Inga's Angle, WRC-TV
September 3	Dr. Eloise W. Kailin	Hay Fever and Pollen Avoidance	Patty Cavin Show, WRC-Radio
October 14	Dr. Milton Gusack	Discussion of TB movie, "Are You Positive?"	Hawthorn Citizens' Association
October 20	Dr. Julius S. Piver	Psychosomatic Gynecology	Women's Auxiliary to Alpha Omega Dental Society
October 26	Dr. Julius Schreiber	Modern Woman and Her Emotional Fulfillment	Sisterhood of Agudath Achim Temple, Alexandria, Va.
October 27	Dr. Daniel L. Finucane	A Public Health Program for Children	D. C. Committee for the 1960 White House Conference on Children and Youth
October 27	Dr. Preston A. McLendon	A Pediatrician Looks Ahead	
October 29	Dr. W. Deaver Kehne	Job Pressures	D. C. Association for Mental Health and Jewish Community Center
November 2	Dr. Benjamin Karpman	Psychiatry, Psychodynamics and The Treatment of Criminals	16th Institute of Correctional Administration
November 3	Dr. Julius Schreiber	The Psychodynamics of Intergroup Tensions	5th Annual Workshop on Intergroup Relations, Brightwood Methodist Church
November 4	Dr. Julius S. Piver	Gynecologic Cancer	Freshmen Women's Hygiene Class, University of Maryland

ware Hospital Association during its 19th Annual Conference at the Shoreham Hotel, October 26–28.

In October Mr. Loughery announced the appointment of **Mr. Christopher A. Batzer as Director of Public Relations of the Washington Hospital Center.** Mr. Batzer, a veteran in the field of public relations, was affiliated at one time with the Maryland Blue Cross-Blue Shield Plans.

The National Foundation announces the availability of **fellowships for clinical study in arthritis and related diseases** for physicians who have an interest in rheumatic diseases and who intend to apply their knowledge of these diseases to clinical service, teaching, or research. Information giving deadlines for applications, the financial support available, qualifications of applicants, etc., may be secured by writing to the Division of Scholarships and Fellowships, Department of Professional Education, The National Foundation, 800 Second Avenue, New York 17, N. Y.

PERSONALS

Dr. Walter A. Bloedorn has been reëlected President of the Gorgas Memorial Institute of Tropical and Preventive Medicine. The election was held during the Annual Meeting of the Institute, the first week in November.

On November 3 Dr. Bloedorn was decorated by the Government of Panama with the Order of Vasco Nunez de Balboa. The decoration cited his contribution to the health of the people of Panama through his service as President of the Institute. It also recognized the fact that during his deanship of George Washington University School of Medicine some of Panama's most distinguished physicians trained there.

Other members of the Medical Society were elected to offices in the Institute. **Senator Lister Hill,** of Alabama, Honorary member of the Medical Society, **and Dr. Fred L. Soper,** an Associate member of the Society, were elected to the Board of Directors for a 3-year term.

Reappointed as ex-officio members of the Institute's Governing Board were many physicians in high office throughout the United States, including the Surgeons General of the Army, **Lt. General Leonard D. Heaton;** Navy, **Rear Admiral B. W. Hogan;** Air Force, **Major General Oliver K. Niess;** and Public Health Service, **Dr. Leroy E. Burney.** These 4 physicians are Honorary members of the Medical Society.

Dr. Leon Yochelson, Clinical Professor of Psychiatry at George Washington University, has been appointed Executive Officer and Professor of Psychiatry of the School of Medicine, succeeding Dr. Winfred Overholser, who retired last summer as head of the Department.

Dr. Yochelson is a graduate (1938) of the University of Buffalo School of Medicine. After interning at St. Elizabeths Hospital he enlisted in the Medical Corps of the Army, serving as Chief of Neuropsychiatry of the 80th and 248th General Hospitals during World War II. He was separated from service with the rank of Major. He returned to St. Elizabeths as Medical Officer in 1946.

Dr. Yochelson is a diplomate of the American Board of Psychiatry and Neurology and a member of the American Psychiatric Association.

Dr. George E. Armstrong, Chief Administrative Officer of Bellevue Medical Center, was elected President of the National Resuscitation Society during its 26th Annual Meeting in New York, October 14. Dr. Armstrong was formerly Surgeon General of the United States Army with the rank of Major General and is an Honorary member of the D. C. Medical Society.

More than 50 Heart Associations are now actively interested in the intensive course in Respiro-Cardiac Resuscitation sponsored by NRS in conjunction with the American College of Cardiology. The course is held every 2 months in New York City and occasionally out of town. Information concerning these courses may be secured from the Secretary of NRS, 2 East 63rd Street, New York 21, New York.

Two Honorary members of the District Medical Society were elected to offices in the Association of Military Surgeons during its 66th Annual Convention in Washington, November 9–11. **Dr. Leroy E. Burney,** Surgeon General of the Public Health Service, was elected First Vice President **and Dr. William S. Middleton,** Medical Director of Veterans Administration, Fifth Vice President. The new President of the Association is Rear Admiral Richard A. Kern, MC, USN (Ret.), Professor of Medicine at Temple University School of Medicine.

Dr. Maurice Protas has been elected Chairman of the House of Delegates of the American Diabetes Association. Dr. Protas is a charter member and Past President of the Diabetes Association of the District of Columbia and a member of the Board of State Governors of ADA.

Dr. Dorothy S. Jaeger-Lee, Associate member of the Medical Society of the District of Columbia, has been appointed to the faculty of Emory University School of Medicine as Instructor in Pediatrics. Dr. Jaeger-Lee practiced in Washington for a number of years before she moved to Atlanta, where she is pediatric consultant physician to the Georgia Department of Health.

Three Washington ophthalmologists, **Drs. Frank D. Costenbader, G. Victor Simpson, and M. Noel**

Stow, received the Honor Point Award at the Annual Meeting of the American Academy of Ophthalmology and Otolaryngology, held at the Palmer House, Chicago, October 11–16. These awards recognize the interest and time spent by these physicians in postgraduate teaching in ophthalmology.

Dr. Victor H. Esch has been appointed by the District Commissioners to the Board of Police and Fire Surgeons to fill the vacancy on the Board created by the recent death of Dr. William D. Claudy. Dr. Esch is a graduate of George Washington University School of Medicine and attending surgeon at Casualty Hospital. He is in private practice with offices on Wisconsin Avenue.

Dr. Samuel L. Bullock has been appointed by the Commissioners as an associate member of the Board of Police and Fire Surgeons. Associate members are called on to provide medical care to policemen and firemen when the 9 full-time surgeons need assistance. Dr. Bullock is a graduate of Howard University School of Medicine and on its faculty as Clinical Instructor in Surgery. He is on the staff of Freedmen's Hospital and also engaged in private practice.

Dr. Donald W. Ingham and Dr. Roger S. Cohen have been named Associate members of the Board of Veterans Appeals by Presidential appointment. They were formerly medical advisors to the Board of Appeals. Dr. Ingham is an Active and Dr. Cohen an Associate member of the Medical Society.

Dr. Robert J. Coffey, Professor of Surgery at Georgetown University School of Medicine, has been elected to the Board of Governors of the American College of Surgeons for a 3-year term, 1959–1962.

Dr. Henry A. Monat has been reëlected to the Board of Governors of the American College of Gastroenterology. The election was held, September 20, in Los Angeles, Calif., during the Annual Meeting of the College.

Drs. Zigmond M. Lebensohn and Robert T. Morse returned at the end of September from a 2½ months' round-the-world mission as psychiatric consultants to the Psychiatric-Psychological Evaluation Program of the U. S. Information Agency. This program, which has been in effect since January 1, 1959, provides psychiatric screening for all applicants for overseas service. Approximately 250 psychiatrists in private practice covering the entire United States have been participating in the selection program.

The purpose of the trip was to obtain "on-the-spot" data from USIA personnel in the field which would sharpen the criteria for future selection. Posts visited were in London, Paris, Copenhagen, Moscow, Kabul (Afghanistan), Lahore (Pakistan), New Delhi, Calcutta, Rangoon, Bangkok, Vientiàne (Laos), Djakarta (Indonesia), Singapore, Hongkong and Tokyo.

Dr. Walter Freeman, of Los Altos, California, was honored recently by election to Corresponding Membership in the Royal Medico-Psychological Association. This news was contained in a letter from Dr. Freeman, wherein he states that in addition to active practice he teaches neurology and the basic sciences in 4 of the California State Hospitals, one of which is 200 miles from Los Altos.

Dr. Alfred R. Greenfield has been elected to Fellowship in the Academy of Psychosomatic Medicine.

BOOKS RECEIVED

Acknowledgment is made of the following books which have recently been received. Selections will be made for more extensive review in the interest of our readers and as space permits. Physicians are urged to submit reviews of additional books which, in their opinion, merit comment.

Psychopharmaca. A Bibliography of Psychopharmacology—1952–1957. Compiled for the Psychopharmacology Service Center, National Institute of Mental Health, National Institutes of Health by Anne E. Caldwell, M.D. Price, $1.50. Pp. 258. Washington, D.C.: Government Printing Office, Public Health Service Publication No. 581; Public Health Bibliography Series No. 19, 1958.

Synopsis of Gynecology, 5th ed. Robert James Crossen, M.D., Associate Professor of Clinical Gynecology and Obstetrics, Washington University School of Medicine, St. Louis, Mo.; Founding Fellow of the

American College of Obstetricians and Gynecologists; Daniel Winston Beacham, Assistant Professor of Clinical Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, La.; Senior Visiting Surgeon, Charity Hospital of Louisiana at New Orleans; Woodard Davis Beacham, M.D., Professor of Clinical Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, La.; Senior Visiting Surgeon, Charity Hospital of Louisiana at New Orleans; and First President of the American College of Obstetricians and Gynecologists. Price, $6.50. Pp. 340, illustrated. St. Louis: Mosby, 1959.

Handbook of Poisoning: Diagnosis and Treatment, 2nd ed. Robert H. Dreisbach, M.D., Ph.D., Professor of Pharmacology, Stanford University School of Medicine, Stanford, California. Pp. 474. Price, paper, $3.50. Los Altos, Calif.: Lange, 1959.

The Modern Family Health Guide. Edited by Morris Fishbein, M.D., Formerly Editor, *Journal of the American Medical Association*; Editor, *Excerpta Medica*; Medical Editor, Britannica Book of the Year. With 26 contributing specialists. Price, $7.50. Pp. 1001. Garden City, N.Y.: Doubleday, 1959.

Color Atlas and Management of Vascular Disease. William T. Foley, M.D., F.A.C.P., Associate Professor of Clinical Medicine, Cornell University Medical College; Associate Attending Physician and Chief of the Vascular Clinic, The New York Hospital, and Irving S. Wright, M.D., F.A.C.P., Professor of Clinical Medicine, Cornell University Medical College; Attending Physician, The New York Hospital. Price, $18.00. Pp. 170, illustrated. New York: Appleton, 1959.

Clinical Auscultation of the Heart, 2nd ed. Samuel A. Levine, M.D., Sc. D. (Hon.), F.A.C.P., Clinical Professor of Medicine Emeritus, Harvard Medical School; Consultant in Cardiology, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, New England Baptist Hospital, and W. Proctor Harvey, M.D., Associate Professor of Medicine, Georgetown University School of Medicine and Director, Division of Cardiology, Georgetown University Hospital; Consultant in Cardiology, Walter Reed Army Medical Center and Bethesda Naval Hospital. Price, $11.00. Pp. 657, with 660 illustrations. Philadelphia: Saunders, 1959.

A Cookbook for Diabetics. Recipes from the ADA Forecast by Deaconess Maude Behrman. Edited by Leonard Louis Levinson. Price, $1.00. Pp. 171. New York: American Diabetes Association, 1959.

The Ciba Collection of Medical Illustrations. Volume 3. A Compilation of Paintings on the Normal and Pathologic Anatomy of the Digestive System. **Part I. Upper Digestive Tract.** Prepared by Frank H. Netter, M.D. Edited by Ernst Oppenheimer, M.D. Summit, N.J.: Ciba Pharmaceutical Products, Inc., 1959.

A way of Life and Selected Writings of Sir William Osler—12 July 1849 to 29 December 1919 (formerly titled Selected Writings of Sir William Osler). With an introduction by G. L. Keynes, M.D., F.R.C.S. Price, paper, $1.50. Pp. 278. New York: Dover Publications, 1959.

The Surgeon and the Child. Willis J. Potts, M.D., Surgeon in Chief, Children's Memorial Hospital; Professor of Pediatric Surgery, Northwestern University Medical School, Chicago. Price, $7.50. Pp. 255, illustrated. Philadelphia: Saunders, 1959.

Current Medical References. Edited by Paul J. Sanazaro, M.D., Associate Professor of Medicine, University of California School of Medicine, San Francisco, California. Price, paper, $3.50. Pp. 535. Los Altos, Calif.: Lange, 1959.

A Synopsis of Skin Diseases. Bethel Solomons, Jun., M.A., M.D., F.R.C.P.I., Consultant Dermatologist, Chelmsford and Essex General Hospital, Herts. Price, $6.75. Pp. 293. Bristol, England: Wright, 1959. Baltimore: Williams & Wilkins, exclusive U.S. agents.

A Doctor's Life of John Keats. Walter A. Wells, M.D. Price, $3.95. Pp. 247, illustrated. New York: Vantage, 1959.

Ciba Foundation Study Group No. 1. Pain and Itch—Nervous Mechanisms. In honour of Prof. med. Dr. Y. Zotterman, M.D., R.V.O. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., Editors for the Ciba Foundation. Price, $2.50. Pp. 120, with 41 illustrations. Boston: Little, 1959.

Ciba Foundation Study Group No. 2. Steric Course of Microbiological Reactions. In honour of Prof. Dr. V. Prelog. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Cecilia M. O'Connor, B.Sc., Editors for the Ciba Foundation. Price, $2.50. Pp. 115, with 37 illustrations. Boston: Little, 1959.

JOHN WOOLFOLK BURKE, M.D.
(1884–1959)

Dr. John W. Burke, a leading Washington ophthalmologist for nearly 50 years, died, October 5, 1959, at Doctors Hospital. His offices were at 2000 Massachusetts Avenue, N.W., and his home at 2311 Tracy Place, N.W.

Dr. Burke was born in Alexandria, Va., October 7, 1884, the son of Mr. and Mrs. Julian T. Burke. His father was President of the Burke and Herbert Bank and Trust Company, of Alexandria, and his grandfather one of the founders of the bank, believed to be the oldest in the state of Virginia.

JOHN W. BURKE, M.D.

Dr. Burke received his medical education at the University of Virginia, graduating in 1906. He interned at the University of Virginia Hospital and took resident training in his specialty at the Episcopal Eye, Ear and Throat Hospital, Washington, the New York Eye and Ear Infirmary of New York City, and the Royal London Ophthalmological Hospital in England. He completed his graduate studies in Vienna before beginning private practice in the District of Columbia in 1910 with the late Dr. William H. Wilmer, of Johns Hopkins fame.

During World War I he served overseas, from 1917 to 1919, in the Army Medical Corps with the rank of Major. Dr. Burke was one of the chief surgeons on the staff of the Episcopal Eye, Ear, and Throat Hospital before it merged with the Washington Hospital Center, and afterwards in the Center's Department of Ophthalmology. In May he was recognized by the Center for his many years of service and awarded the gold-headed cane.

From 1925 to 1930 he was Professor of Ophthalmology at Georgetown University School of Medicine.

Dr. Burke was elected to membership in the Medical Association of the District of Columbia in 1911, the year that the Association merged with the D. C. Medical Society, and became a Life member of the Society in 1952. He was a member of the American Medical Association, a diplomate of the American Board of Ophthalmology, Past President of the American Ophthalmological Society, and a member of the Association for Research in Ophthalmology and the Section on Ophthalmology of the D. C. Medical Society (formerly the Washington Ophthalmological Society). He was Past President of the Chevy Chase Club and a member of the Metropolitan and Alibi Clubs.

Dr. Burke was a member of the vestry of All Souls Memorial Church for many years and was senior warden for 12 years.

Surviving him are his wife, Mrs. Olive Patten Burke; a son, John W. Burke, Jr., of Washington; and two daughters, Mrs. Richard W. Emory, of Baltimore, and Mrs. Arthur Howe, Jr., of New Haven, Conn. A sister, Mrs. Holland Judkins, of Baltimore, also survives.

GEORGE N. RAINES, B.S., M.D., F.A.C.P.
(1908–1959)

Captain George N. Raines, U.S.N., who retired from the Navy early this year, died, September 16, 1959, in the U.S. Naval Hospital in Bethesda, Md. A nationally known psychiatrist, he was Director of the Department of Psychiatry at Georgetown University Medical Center.

Dr. Raines was born in Jackson, Mississippi, April 2, 1908, to William G. and Bessie Haskins Raines. From the University of Mississippi he received the degree of Bachelor of Science in 1928. In

1930 he received his degree in medicine from Northwestern University. He enlisted in the U. S. Navy directly after his graduation and interned for a year at the Naval Hospital at Mare Island, Calif.

From 1935 to 1936 he was a resident physician on the staff of St. Elizabeths Hospital in Washington, D.C. From 1936 to 1945 he served as Executive Officer of the Naval Hospitals in Philadelphia and Portsmouth, Va. He became Chief of Psychiatry at the Naval Hospital in Bethesda in 1945 and held that post until 1950, when he was transferred to the Bureau of Medicine and Surgery. He was Chief Psychiatrist of the Navy Department from 1950 to 1953 and again from 1955 until his retirement. He had been Professor and Chairman of the Department of Psychiatry at Georgetown University School of Medicine since 1948.

CAPTAIN GEORGE N. RAINES, M.C., U.S.N.

In 1956 he was elected President of the American Board of Psychiatry and Neurology, the first military medical officer on active duty to be so honored. On the Board he represented the Section on Nervous and Mental Diseases of the American Medical Association. He contributed numerous articles to the psychiatric literature, many of them dealing with matters of military psychiatry.

Dr. Raines was a member of many medical organizations, including the American Medical Association, the American College of Physicians, the American Psychiatric Association, the American Neurological Association, the American Academy of Neurology, the Association for Research in Nervous and Mental Diseases, the American Psychopathological Association, the Washington Psychiatric Society, the Washington Psychoanalytic Society, and the Medical Society of St. Elizabeths Hospital. He became an Active member of the Medical Society of the District of Columbia in 1949. He was a member of the Columbia Country Club, the Army-Navy Club, and Sigma Chi and Phi Chi fraternities.

He leaves his wife, Mrs. Kate St. Clair Raines, of the home address, 3730 Fordham Road, N.W.; a daughter, Mrs. Mary Anne Goslen, of Greensboro, N.C.; a son, Lieutenant (j.g.) George N. Raines, Jr., U.S.N., of Coronado, Calif.; a sister, Mrs. W. A. Connley, of Jackson, Miss.; and a brother, William G. Raines, of Havana, Cuba.

EARL BOWER BARNES, B.A., M.D., F.A.C.S.
(1913–1959)

Dr. Earl Bower Barnes, Associate Professor of Surgery at Georgetown University School of Medicine, died suddenly at the University Hospital, September 12, 1959. His offices were at 1150 Connecticut Avenue, N.W.

Dr. Barnes was born in San Antonio, Texas, July 8, 1913, to Bower and Jo Roddy Barnes. He graduated from The Rice Institute, Houston, receiving the degree of Bachelor of Arts in 1935. He received his medical training at the University of Texas, graduating in 1939. He came to Washington to serve his internship at Gallinger Municipal (now D. C. General) Hospital.

During World War II he served for 4 years, from 1941 to 1945, with the Army Medical Corps in the Caribbean Area and Europe. He was separated from service with the rank of Major. After his separation he served as resident physician in surgery in the

Georgetown Division of D. C. General Hospital. Following this training he was appointed Instructor in Surgery at Georgetown in 1948.

Dr. Barnes was a Fellow of the American College of Surgeons, a diplomate of the American Board of Surgery, and a member of the American Medical Association, the Southeastern Surgical Society, and the Southern Medical Association. He had been an Active member of the Medical Society of the District of Columbia since 1949.

Surviving him are his wife, Mrs. Edna Youngs Barnes, and 3 young daughters, Pamela, Dianne, and Sarah, all residing at their home, 5700 Marengo Road, Springfield, Md. He is also survived by his mother and a brother, Roddy Barnes, of Houston, Tex., and another brother, Addison Barnes, of Midland, Tex.

Collagen Disease—Dubois

(*Continued from page 694*)

19. Leinwand, I., Duryee, A. W., and Richter, M. N.: Ann. Int. Med., 1954, **41**, 1003.
20. Orabona, M. L., and Albano, O.: Acta med. scandinav., 1958, supp. 333, p. 1.
21. Casten, G. G., and Boucek, R. J.: J. A. M. A., 1958, **166**, 319.
22. Dubois, E. L., and Freeman, V.: Blood, 1957, **12**, 657.
23. Wallace, S. L., Lattes, R., and Ragan, C.: Am. J. Med., 1958, **25**, 600.

Diseases of Childhood—Fischer

(*Continued from page 702*)

considerably and consequently be in a far better position to render the best possible assistance to our little patients.

In summary, then, I have attempted to call to your attention a number of disease entities which in my experience or that of other pediatricians have seemed to most frequently present a sufficiently confusing diagnostic picture as to lead to errors or failures of recognition. The particular importance of a strong element of suspicion and an attitude of distrust of the too obvious has been indicated with the hope that some of these conditions which might have passed unrecognized in the past will seem more familiar in the future.

Clinical Center Studies

(*Continued from page 714*)

with inoperable chondrosarcoma but with tumor where it is accessible for biopsy so that the Sulfur-35 content can be analyzed.

It is preferable, of course, that patients not be in the terminal phase of these diseases as this precludes long-term studies of effects. Patients that are accepted will be studied for varying periods of time and may be followed subsequently by either the referring physician or physicians at the Clinical Center. A comprehensive and individualized program will be instituted for each patient and will include appropriate supportive and symptomatic care as well as the experimental therapy study described above.

Physicians interested in the possibility of referring patients as described should write or telephone Dr. Charles G. Zubrod, Clinical Director, National Cancer Institute, Bethesda 14, Md. (Oliver 6-4000, Ext. 4346), or Dr. J. Robert Andrews, Chief, Radiation Branch, National Cancer Institute (Oliver 6-4000, Ext. 3351).

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Relief of muscle spasm (96% excellent to good effectiveness)[1]

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"Relief from pain was usually rapid and sometimes dramatic"[1]

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dosage: The usual adult dosage of RELA is one tablet 3 times daily and at bedtime. RELA has a rapid onset of action, with relief usually apparent within 30 minutes, and persisting for at least 6 hours.

supply: RELA is available as 350 mg., pink, coated tablets in bottles of 30.

[1] Kuge, T.: To be published.

H-227

XMYOGESIC
muscle—analgesic relaxant

Schering

Book Reviews

Fundamentals of Otolaryngology. A Textbook of Ear, Nose and Throat Diseases, 3rd ed. LAWRENCE R. BOIES, M.D., and Seven Associates. Price, $8.00. Pp. 510, with 212 illustrations. Philadelphia: Saunders, 1959.

In the preface, Dr. Boies informs us that his book is to offer only fundamentals to undergraduates and to the physician who is not a specialist. I think that it could be used very well by many of us who are in the specialty as a quick-reference volume.

Its completeness, brevity and simplicity remind one of the fourth edition of Logan Turner's "Diseases of the Ear, Nose and Throat" of about 20 years ago.

Subjects that have undergone great changes as to concepts since Turner's book are dealt with in a masterly fashion, namely:

1. The physiology of the cochlea based on the investigation of Von Bekesy.
2. The neurovascular mechanism of the ear and nose, covered so ably by Jerome Hilger.
3. Allergy in its relation to otolaryngology. New technics of diagnosis and treatment are discussed.
4. Headache. A reëmphasis of the neurovascular conditions is made; a clearer classification is offered.
5. Plastic, maxillofacial and restorative surgery are given adequate coverage.

The above outline of subjects is made because they happen to be areas of new discoveries. The classic otolaryngologic subjects, such as anatomy, physiology, infection, and therapeutics, are also covered well in this book.

I believe a separate chapter on technics of otolaryngologic examination in addition to that on modern medication might have been a slight improvement on this excellent text.

FRASIER WILLIAMS, M.D.

Textbook of Pediatrics, 7th ed. Edited by WALDO E. NELSON, M.D., D.Sc. With the collaboration of 81 contributors. Price, $16.50. Pp. 1462, with 428 illustrations. Philadelphia: Saunders, 1959.

This is the seventh edition of this classic textbook of pediatrics. This edition is somewhat shorter than its immediate predecessor, but in no way has anything of importance been deleted. The entire book has been revised and brought up to date. In addition several chapters are new or have been completely rewritten, enhancing thereby the many virtues of the text. These include parenteral fluid therapy, drug therapy, anesthesia, the newborn infant, the nervous system, convulsive disorders, the rickettsial diseases, tuberculosis, the respiratory tract, the nervous system, and others.

The problem of embracing the many facets of child care in a single volume is an increasingly difficult one, but the Nelson Textbook of Pediatrics performs admirably in this regard.

Currently, one would recommend this text to both students and practitioners as perhaps the most comprehensive and up-to-date in the field of pediatrics.

SYDNEY ROSS, M.D.

The Chemical Prevention of Cardiac Necroses. HANS SELYE, M.D., PH.D., D.Sc. Price, $7.50. Pp. 235. New York: Ronald Press Company, 1958.

The monograph champions the complex interrelationships between electrolytes, steroids, and stress in the production as well as in the prevention of cardiac necrosis (ESCN), experimentally, in several hundred rats. Selye believes that (1) "physiologically balanced salt solutions," (2) "toxic cardiopathies" produced by biochemical means, and (3) "conditioning by hormones for nonhormonal pathogens" account for the cardiopathic necrosis. The myocarditis is pronounced in the right ventricle, atria and subendocardium of both ventricles.

The cation (Na) and the anion (PO_4, SO_4, ClO_4) are potent sensitizing agents. NaCl normally does not sensitize for ESCN (electrolyte-stress-corticoid-cardiac necrosis). Under stress it acquires such potential. The cation (K, Mg) and the anion (Cl) desensitize the above electrolytes. Potassium or magnesium given as the chloride salts inactivates the sensitizing salt of sodium.

Glucocorticoids (triamcinolone) and the mineralocorticoid (desoxycorticosterone) exhibit low necrotizing effects. However, a mixture of the 2 compounds, as well as some of the synthetic halocorticoids were highly effective as a "conditioner" for the production of the electrolyte-steroid cardiac necrosis phenomenon. Sterols of the vitamin D group (dihydrotachysterol) in combination with NaH_2PO_4 produce purulent myocarditis. KCl and $MgCl_2$ could prevent the production of such a myocarditis.

The monograph conceives a labile chemical system in the myocardium which is easily disturbed through the metabolic effect of stress in the presence of hypercorticoidism and an excess of "sensitizing Na-salts." A similar interrelationship of "stress, corticoids and dietary electrolytes influence the cardiotoxic effects of many otherwise unrelated agents," Selye believes, and may exist in man. While the monograph is principally concerned with cardiac disease, it emphasizes that serious lesions outside of the heart may follow treatment with corticoids and electrolytes.

(*Continued on page 74*)

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(*Continued from page 58*)

This book is provocative and stimulating in its concept and experimental approach. It may be read with profit by those interested in cardiovascular and metabolic disorders.

BENJAMIN MANCHESTER, M.D.

Anesthesia for Infants and Children. ROBERT M. SMITH, M.D. Foreword by Robert E. Gross, M.D. Price, $12.00. Pp. 418, with 182 illustrations. St. Louis Mosby, 1959.

This excellent book, although written mainly for anesthesiologists, will be a useful addition to the library of any physician caring for infants and children. Dr. Smith has presented in a thorough, concise, and easy-to-understand manner basic scientific evidence that justifies the common saying, "Children are not small adults." After exposing the basic essential information, stressing the high points, he tells how to apply this understanding intelligently to the care of sick children.

Noteworthy is the chapter on respiratory physiology in infants and children, written by Dr. Charles D. Cook, as well as the chapters on fluid therapy and blood replacement, special problems in pediatric anesthesia, anesthetic complications, respiratory resuscitation, and oxygen therapy. Other subjects of interest are premedication, equipment, technics and agents, the use of muscle relaxants, hypothermia and hypotensive technics. A full chapter is devoted to anesthesia for infants under 1 year of age. For this reviewer, this chapter gives the solution to many problems in the management of infants who have congenital anomalies and whose small size demands experienced skill in handling as well as wisdom in management and support. The entire book is well illustrated, and especially the above-mentioned chapter.

For the anesthesiologist who sees only a small number of children and who infrequently has a rare or difficult case this book is invaluable. As a reference and guide for instructors in anesthesia this book has no equal at present.

EVELYN E. HENLEY, M.D.

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- Conn, H. F., edited by, with 12 consulting editors: Current Therapy—1959. Latest Approved Methods of Treatment for the Practicing Physician, (Yater) Adv. (Aug.) 48
- Cowdry, E. V., edited by: The Care of the Geriatric Patient, (White) Adv. (Mar.) 54
- Crain, D. C.: Help for Ten Million. A Manual for Patients with Arthritis, Rheumatism and Gout, (Burns) Adv. (July) 46
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